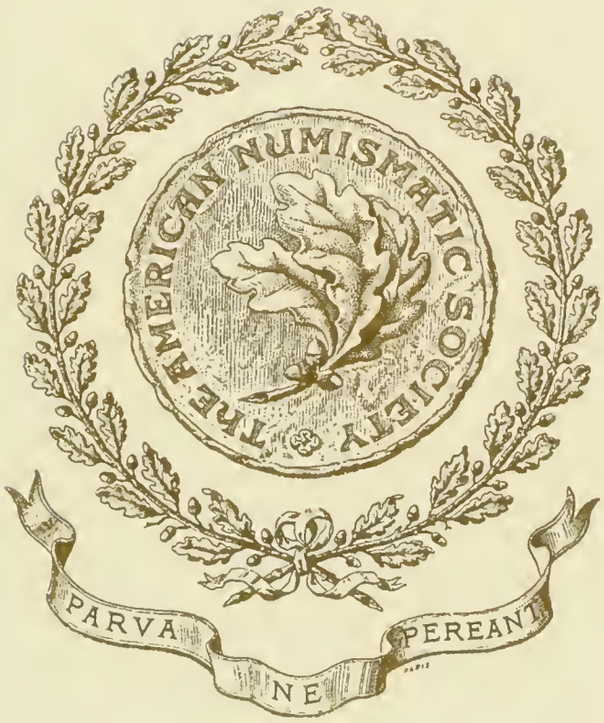


COLLECTION

OF

MINERALS

OF

A. DOHRMANN, Esq.

CATALOGUED BY

S. H. & H. CHAPMAN,

December 13, 14, 15, 1886.

CATALOGUE

OF THE MAGNIFICENT COLLECTION OF

MINERALS,

EXTREMELY RICH IN

CRYSTALLIZED GOLD AND SILVER,

OF

A. DOHRMANN, Esq.,

OF SAN FRANCISCO, CAL.

CATALOGUED BY

S. H. & H. CHAPMAN,

2009 Arch St, Philadelphia.

AND TO BE SOLD AT AUCTION BY

DAVIS & HARVEY, IN THEIR ART GALLERY,

1212 Chestnut St., Philadelphia.

MONDAY, TUESDAY AND WEDNESDAY, DECEMBER 13TH,
14TH AND 15TH, 1886.

COMMENCING AT 2:30 P. M. EACH DAY.

PREFACE.

The undersigned present herewith the catalogue of the collection of minerals formed by Mr. A. Dohrmann, of San Francisco, California.

The collection is extraordinarily rich in beautiful and rare crystallized specimens of gold, silver and cinnabar, which, as far as we are informed, surpass the other examples known from the Pacific Slope of the United States, and which region this cabinet principally represents.

We would particularly call the attention of mineralogists to the following numbers: 1, 7, 11, 29, 37, 38, 39, 40 to 53; 54, a specimen of wondrous beauty; 55, 56, 58, 59 to 70, and especially to 60, which is of the greatest beauty and perfection of condition; 77, 87, 98, 105–6, 114, 123, 129, 148, 179, 184–5–6–7–9, 201, 218, 221–2–3–6–7–9, 237, 249, 260–3, 264, 265; 288, the meteoric iron; 290, 293, 299, 339, 344, 346, 433, 613, 821; 838, a splendid specimen.

The collection has been arranged according to "A system of Mineralogy, by James Dwight Dana, Professor of Geology and Mineralogy, Yale College, aided by George Jarvis Bush, Professor of Mineralogy, etc., Yale College." Fifth edition, 1868. And the No. (number) under each head refers to the number of the species in Prof. Dana's great work. Each specimen has a wooden block with the locality marked on it.

The sizes are given for the gold, silver and some marked instances by the scale of one-sixteenth of an inch, which will be found on page 56, and the other species in inches.

Whenever the weights are given, the specimen (except No. 226) is of the metal alone or nearly so, the matrix, always mentioned if any, forming a small proportion. The weights are given in Troy weight, and generally in grains unless those of very heavy specimens.

This will be the first sale by auction of a really important private collection in this country, and we hope mineralogists will give it their support; and if the sale is a success, it will give a basis to the valuations of rare minerals.

Our reputation for honest, correct and exact descriptions is well known to numismatists and antiquaries, and, may we say this with pardonable pride, we have the confidence of collectors in these branches of scientific collections; and we hope in this cat-

alogue of minerals we will gain the endorsement of our descriptions by, and the confidence of mineralogists. We catalogued and managed the sale of the celebrated collection of coins and medals of the late C. I. Bushnell, Esq., of New York City, which was the largest and finest sale of American coins and medals ever sold, and published the catalogue quarto with twelve plates; and the immense collection of Thomas Warner, Esq., with a similar catalogue, and others.

We guarantee the specimens to be as described.

To further the descriptions we have published an edition of 100 copies of the catalogue with nine artotype plates, showing seventy-three specimens, at the actual cost price of $1.00, post paid. It will be the first time that such a catalogue has been thus illustrated, and we think, from the plates before us, mineralogists will consider them a success, as they show the details of formation, allowing, of course, for colors and reliefs. Whilst looking at the plates, we would advise the viewer to sit with his back to the light and allow it to fall on the plate.

Bids will be faithfully executed by us at the usual rate of ten per cent. commission, and by the auctioneers free of charge.

Respectfully,

S. H. & H. CHAPMAN,
NUMISMATISTS AND ANTIQUARIES,
And experts in conducting sales of
NUMISMATIC, SCIENTIFIC AND ARCHÆOLOGICAL COLLECTIONS.

For Scale, Weights, and Abbreviations, see page 56.

CATALOGUE.

GOLD.

Dana No. 1.

All from State of California unless otherwise stated.

1 Gold. Thick, tabular plates on large surface of quartz crystals. 66 x 36. Very fine. Empire Mine, Grass Valley. See plate II.

2 Gold. Laminæ on quartz crystals. 32 x 48. Mass. Hill, Q. M., Grass Valley, Nevada Co. Very fine.

3 Gold. Granules in quartz rock. 28 x 28. Same locality.

4 Gold. Yellow mass on quartz. 40 x 40. Beautiful. Mamaluke Hill, Q. M., near Georgetown, El Dorado Co.

5 Gold. Flakes on quartz crystals over surface of rock. 48 x 96. Empire M., Grass Valley.

6 Gold. Thick plate on quartz crystals. 72 x 88. Near Byrd's Valley, Placer Co.

7 Gold. Minute crystals in strings, like beaded wire. 32 x 40. Beautiful and rare. Placer Co. See plate II.

8 Gold. Similar and same locality. 16 x 16.

9 Gold. Flakes in and on quartz crystals. 24 x 32. Rare. Cedarbury M., near Spanish Dry Diggins, El Dorado Co.

10 Gold. Same. Smaller flakes on quartz. 32 x 56.

11 Gold. Thick sheet with small crystals on large surface of quartz crystals. 40 x 72. Exceedingly fine, rare and beautiful. Near Byrd's Valley, Placer Co. See plate II.

12 Gold. Flakes scattered on quartz. 24 x 64. Beautiful. Empire M., Grass Valley.

13 Gold. In cavity of quartz. 24 x 24, two smaller. Interesting. Same locality. 3 spcs.

14 Gold. Small flakes in quartz. 32 x 40. Herbert & Sheald M., near Silver City, Nev.

15 Gold bearing rock. 32 x 32. 24 x 24. Cornish M., near New City. 2 spcs.

16 Gold. Plate on quartz crystals. 32 x 48. Interesting. Mass. Hill, Q. M., Grass Valley.
17 Gold. Granules on quartz. 36 x 48. Amador M., Amador Co.
18 Gold. Similar and same locality. 52 x 64. 24 x 40. 2 spcs.
19 Gold. Granules in Magnesite. 32 x 60. 32 x 40. Oaks and Reese Q., M., Mariposa Co. 2 spcs.
20 Gold. Same locality. 20 x 80. 20 x 40, very rich. 2 spcs.
21 Gold. Granules on quartz. Mass. Hill, Q. M., Grass Valley, Nev. Co. 24 x 24, 32 x 24, 32 x 48. 3 spcs.
22 Gold. Granules on ferruginous quartz, 28 x 36. U. S. Grant M., Calaveras Co.
23 Gold. Granules on quartz, 16 x 20. Very rich. Same locality.
24 Gold. Granular masses on three surfaces of quartz. 24 x 24. Very fine. Blue Ledge, near Placerville, El Dorado Co.
25 Gold. Granular, through quartz. 32 x 36. Very fine. Jackass Gulch, Calaveras Co.
26 Gold associated with Tellurium, one with globules of gold (rich). 16 x 28, 8 x 20 (rich in Tellurium), 4 x 4. Shasta County. 3 spcs.
27 Gold. Laminæ in cavities of hacked quartz, 36 x 40. Very interesting. Williams Q. M., Mariposa Co.
28 Gold. Large granules on quartz. Rich. 16 x 16. Same locality.
29 Gold. Thick, large smooth laminæ on quartz crystals. 16 x 24 x 32. Cedarburg M., El Dorado Co. See plate III.
30 Gold. Laminæ on three surfaces of quartz. 20 x 28. V. fine.
31 Gold. Similar. 32 x 24 x 12.
32 Gold. Tuft of laminæ and granules in quartz. 20 x 14 x 16.
33 Gold. Thick and thin laminæ in quartz. Handsome and interesting. 16 x 20. 3 spcs.
34 Gold. Laminæ, thick, in ferruginous quartz crystals. Tuolumne Co. 32 x 40. Very fine. See plate III.
35 Gold. Laminæ as above, 12 x 20. Exquisite specimen. See pl. I.
36 Gold. Similar. 12 x 16. 8 x 12. Very fine. See pl. I. 2 spcs.
37 Gold. Thick, sutured plates approaching crystallization. 16 x 20, 278 gr. Grit M., El Dorado Co. Remarkable and extremely rare. See plate IV.
38 Gold. Flat, arborescent on each side, and crystalline. Beautiful and very rare. Same locality. 32 x 40. Wt., 528 gr. See plate IV.
39 Gold. Thick laminæ, forming large surface on white quartz crystals. 40 x 76. Seaton M., Amador Co. Wt. 487 gr. Very beautiful specimen. See plate I.

40 Gold. Crystalline and granules all through quartz. Beautiful. 20 x 32 x 12. Wt., 302½ gr. Diamond Creek, Nevada Co. See plate III.

41 Gold. Thick, striated laminæ, on quartz crystals. 24x64. Very beaut. and remarkable. Ford and McDonald M., Grass Val.

42 Gold. Same. Crystalline in quartz crystals, with iridescent pyrites. 32 x 32.

43 Gold. Thick laminæ with crystals surrounding quartz pebbles. 12 x 20. El Dorado Co. See plate IV.

44 Gold. Crystalline in thick laminæ in quartz. 18 x 16. Same. Wt., 82 gr. See plate IV.

45 Gold. Thick laminæ, free, with small crystals on surface, formed in a boat-shaped object. 16x7½x9. Wt., 61 gr. See pl. I.

46 Gold. Free. Arborescent, with crystals along edges. 16 x 24. Wt., 312½ gr. Byrd's Valley, Placer Co. See plate IV.

47 Gold. Crystallized, acicular, reticulated, arborescent, laminated and globular. Eleven exquisite and varied small specimens. Near Forrest Hill, Placer Co. 8 to 16 long. Total wt., 572 gr. See plate IV. 11 spcs.

48 Gold. Globular, surrounding quartz. Same. 8 x 6. 38½ gr.

49 Gold. Crystals, octahedral, with parallel growths; four crystals are symmetrically joined. 7½ x 9½ x 5. Wt. 110½ gr. This remarkable and rare specimen was found in 1871 in auriferous gravel deposit, near Placerville, El Dorado Co. Very rare. Fine. See plate I.

50 Gold. Crystallized in branches on quartz. 16½ x 13 x 9. Wt. 296 gr. Grass Valley.

51 Gold. Laminæ in slate rock with natural polish. 32 x 68. Rare. Calaveras Co.

52 Gold. Crystallized and in laminæ, reticulated. 35 x 19 x 8½. Wt. 667 grs. Very remarkable. El Dorado Co. See pl. III.

53 Gold. Thick laminæ studded with crystals, reticulated, massed on small base of quartz. Exceedingly fine. Very rare. Pratts M., 46 miles S. E. of Carson City, Nev. 42 x 20 x 20. Wt. 1344 grs. See plate III.

54 Gold. Thick, smooth laminæ with small crystals on both sides, intersecting quartz crystals. The two principal laminæ and several smaller ones join at the centre like leaves on a branch; size of lamina to left 36 x 19; to right 36 x 26, size of specimen 57 x 48 x 46. Weight, 4 oz. 16 dwt. 3 gr. or 2324 grains. Tuolumne County. This specimen is of the greatest beauty and is unique, surpassing all specimens in this country. See plate III.

55 Gold. Crystals elongated, and a portion of the surface reticulated, on quartz. 48 x 52, thickness of base 16. Wt., 2881 gr., about ⅓ quartz. Very beautiful and very rare. Girt M., El Dorado Co. See plate I.

56 Gold. Wire, spongiform on quartz crystals, 16 x 8, specimen 64 x 44. Very fine and extremely rare. Near Nevada City. California.

57 Gold. Wire, in the form of minute filaments deposited on quartz in a thick mat. Triangular, 38. Exceedingly rare and interesting. Placerville, El Dorado Co. See plate III.

58 Gold. Large, smooth laminæ on surface of quartz and in cavities. Length of principal laminæ 36 x 15, 10 x 6; specimen 96 x 56. Extraordinary and splendid specimen. Cedarburg M., El Dorado Co. Formation similar to No. 29, plate III.

59 Gold. Filaments, broad, dispersed through section of quartz pebble polished on one end. 16 x 29 x 19½. Very rare.

60 Gold. Crystals, some perfect, others modified, presenting reticulated surfaces; the specimen of triangular form with the crystals radiating from a median line and converging to a point. Base, 22. Sides, 25. Length, 30. Greatest thickness, 10½. Wt., 2¾ oz. or 1320 gr. Grit Mine, near Spanish Dry Diggins, El Dorado County. Most beautiful, brilliant, and excessively rare specimen. See plate I.

61 Gold. Crystals, modified, with one perfect on an extended branch; surface, reticulated; radiating from a median line like the specimen above. 27 x 16 x 6. Wt., 278½ gr. Same mine. Like the above, it is very beautiful and excessively rare. See plate I.

62 Gold. Crystals, one perfect, others modified, with serrated faces, reticulated; pyramidal form. 14 x 8 x 11. Wt., 187½ gr. Same mine. Very beautiful and excessively rare. See plate I.

63 Gold. Crystals, modified and reticulated like preceding specimen. Same mine. 16 x 12 x 6. Wt., 200 gr. Beautiful and very rare. See plate I.

64 Gold. Crystals, elongated, thickened and serrated, with thick laminæ. 48 x 32 x 8. Wt., 1127 gr. Same mine. Very beautiful and showy specimen, and excessively rare. See plate IV.

65 Gold. Crystals, some small, perfect, others modified; one surface presenting arborescent forms. 20 x 16 x 10. Wt.,

432 gr. Forest Hill, Placer Co. Very beautiful and extremely rare. See plate IV.

66 Gold. Very heavy, thick laminæ irregularily convoluted, with globules and serrations. 42 x 32 x 5½. Wt., 909 gr. Near Nevada City. Very rare.

67 Gold. Crystals, some small, perfect, others modified, and some elongated, and those at one end extraordinarily so, and twisted into a branch; and others near the centre forming an arch. 28 x 16 x 9. Wt., 396 grs. Butte Co. Very beautiful and excessively rare. See plate IV.

68 Gold. Nugget shaped exactly in the form of a human foot; surfaces reticulated; prominent parts worn. 28 x 12 x 9. Wt., 627 gr. Gravel Mine, Oregon. See plate IV.

69 Gold. Granular; formerly encased in quartz, forming short branches from a main shaft. 24 x 12 x 4. Wt., 194 gr. Col. See plate IV.

70 Gold. Granules covering both surfaces of section of quartz. 48 x 32 x 2. Very fine. Rare. Grand Prize S. M. Co., Tuscarora, Elko Co., Nev.

71 Gold. Covering surface of slate with large reticulated mass on the centre. 36 x 24. Very rare. Shasta Co.

72 Gold. Laminæ on ferruginous quartz. 24 x 16. Fine specimen. Butte Co.

73 Gold. Laminæ covering three surfaces of quartz. 22 x 20 x 16. Choice. Tuolumne Co.

74 Gold. Laminæ on ferruginous quartz. 24 x 12. Very fine. IXL M., Calaveras Co.

75 Gold. Granules in quartz. 20 x 16, 24 x 32. Near Placerville, El Dorado Co. 2 spcs.

76 Gold. Large granules in quartz. 28 x 36. V. f. Same locality.

77 Gold. Reticulated, acicular crystallets on quartz. 24 x 8 x 8. Beautiful. Same locality.

78 Gold. Laminæ in quartz crystals. 10 x 16. Same locality.

79 Gold. Laminæ on quartz. Fine. 16 x 16. Same locality.

80 Gold. Laminæ in quartz. 10 x 16, 10 x 20, 20 x 20. Fine. Near Coloma, El Dorado Co. 3 spcs.

81 Gold. Laminæ on Syenite. 20 x 28. Rare. El Dorado Co.

82 Gold. Laminæ in quartz, with galena and talc. 28 x 34. Tuolumne Co.

83 Gold. Laminæ in quartz, with iron pyrites. 16 x 16. Central City, Gilpin Co., Col.

84 Gold. Laminæ on three surfaces of quartz. 20 x 28 x 8. Very fine. Grass Valley, Nev. Co.

85 Gold. Laminæ covering surfaces, with iron pyrites. 24 x 24. Near Ophir, Placer Co. 7 spcs.
86 Gold. Laminæ covering three surfaces of ferruginous quartz. 20 x 16 x 12. Rich. Placer Co.
87 Gold. Extraordinarily large, modified crystal on quartz. 12 x 8 x 4. Wt., 213 gr. Exceedingly fine. Very rich.
88 Gold. Rounded masses in quartz crystals. 20 x 12. Very fine. Exceedingly rare. Sutter, Amador Co.
89 Gold bearing quartz. 48 x 32, 80 x 80. Black's M., near Coulterville, Mariposa Co. 2 spcs.
90 Gold bearing quartz. 32 x 40, 16 x 24. Enterprise M., near Meadow Lake. Nev. Co. 6 spcs.
91 Gold bearing quartz. 28 x 32. Rich. Amador Co. 16 x 16. 5 spcs.
92 Gold bearing quartz. 32 x 32. Bodie, Mono Co. 4 spcs.
93 Gold bearing quartz. 76 x 64 x 48 (rich), 48 x 48. Yuba Co. 2 spcs.
94 Gold bearing quartz. Very rich. 48 x 48 x 40. Grass Valley.
95 Gold. Laminæ on quartz. 72 x 80. Tuolumne Co.
96 Gold bearing quartz. 40 x 48. 48 x 56. Tuolumne Co. 3 spcs.
97 Gold bearing quartz. 32 x 40. Mariposa Co. 3 spcs.
98 Gold. Laminæ in quartz. 40 x 60 x 32. Very fine. Near Placerville, El Dorado Co.
99 Gold. Laminæ on two surfaces (1 polished). 16 x 24 x 6. 20 x 12. Very fine and rich. Same locality. 2 spcs.
100 Gold. Thick laminæ in quartz. Small. Choice. Placer and Nev. Cos. 30 spcs.
101 Gold. Granules in quartz. 32 x 40 x 40. Very rich. Grass Valley.
102 Gold bearing quartz. 32 x 40 x 72. Calaveras Co. 5 spcs.
103 Gold. Laminæ covering half the surface of quartz. 10 x 10½ inches. Very fine. Placerville, El Dorado Co. Unusually large and fine specimen.
104 Gold bearing quartz. 56 x 68. El Dorado Co.
105 Gold. Laminæ in veins on polished surface of quartz. 40 x 78 x 70. Virginia City, Nev.
106 Gold and silver on 3 surfaces on amethystine quartz. 56 x 64 x 40. Comstock Lode, Nev.
107 Gold bearing quartz. 60 x 40 x 28. Black Hills, Dak.
108 Gold bearing quartz. 32 x 40. 56 x 80 x 48. Grass Valley and Tuolumne Co. 2 spcs.
109 Gold. Laminæ on three surfaces. 64 x 32 x 24. Very rich. Sierra Co.

110 Gold and silver bearing crystallized quartz. 40 x 100 x 48. Beautiful. Mexico.

111 Gold bearing quartz, with iron pyrites. 24 x 24. 52 x 40. 32 x 48. Mariposa Co. and Nev. City. 4 spcs.

112 Gold in Roscoelite. Very rare. 24 x 32 x 16. El Dorado Co., Cal.

113 Gold in Roscoelite. 16 x 10, 16 x 8. Very fine and exceedingly rare. Monon Bar, El Dorado Co. 2 spcs.

114 Gold granules over surface of, and penetrating ferruginous quartz crystals. 10 x 5 x 3 inches. Very choice. Ramon, Q., M., W. P. Calaveras Co.

115 Gold bearing quartz. 48 x 48, 28 x 40 two mines. Dos Cabazos, A. T. 4 spcs.

116 Gold bearing quartz with iron pyrites. 32 x 48, 64 x 52. Mariposa Co. 3 spcs.

117 Gold bearing quartz with iron pyrites, 5 specimens. 96 x 48 to 24 x 28. Different mines, marked.

118 Gold. Granules through drusy quartz. 56 x 40 x 16. Silver City, Nev. Very fine.

119 Gold bearing quartz with chalcopyrite, 64 x 72, 28 x 40, and two from different mines. 32 x 40. 4 spcs.

120 Gold bearing quartz with iron pyrites. 80 x 40, 32 x 32. Calaveras Co. 3 spcs.

121 Gold bearing quartz with iron pyrites, different localities, marked. 90 x 40 x 16, 32 x 48. 3 spcs.

122 Gold bearing quartz with iron pyrites, different localities, marked. 72 x 32 x 16, 40 x 40. Fine. 3 spcs.

123 Gold. Granules scattered over surface of quartz. 24 x 40 x 48. Mosquito Gulch, Calaveras Co. Very fine.

124 Gold bearing quartz with iron pyrites. 72 x 48, 62 x 24, different localities, marked. Fine. 7 spcs.

125 Gold. Laminæ in quartz with iron pyrites. 24 x 48 x 80. Fine specimen. Placerville, El Dorado Co.

126 Gold bearing quartz with iron and copper pyrites. 72 x 72 x 36, 32 x 40. Different localities, marked. 4 spcs.

127 Gold bearing quartz. 24 x 32, 24 x 48. Prospect M. Wyoming Territory. 4 pcs.

128 Gold. Same. 40 x 48, 40 x 32. 3 pcs.

129 Gold. Laminæ in thick clusters in quartz. 26 x 26 x 24. Placerville, El D. Co. Very fine specimen.

130 Gold. Laminæ in quartz. 32 x 64 x 40. Same mine.

131 Gold bearing quartz. Mariposa Co. Cal., and Dos Cabazos Co. Arizona. 96 x 56, 64 x 64. 5 spcs.

132 Gold in radiating quartz. 32 x 36 x 8. Arizona. Very rare.
133 Gold. Same, with iron pyrites. Calaveras Co., Cal. 72 x 56. 2 spcs.
134 Gold bearing quartz crystals, with crystals of iron pyrites. 32 x 56 x 24. St. P. M., Placer Co. Beautiful specimen. Very brilliant.
135 Same with calcite. 16 x 32 x 40. Beautiful.
136 Same with large quartz crystal. 36 x 30 x 27. Fine.
137 Same. 32 x 40, 16 x 32. Different localities. 4 spcs.
138 Gold bearing quartz. Nevada City and Grass Valley. 40 x 40. 2 spcs.
139 Gold bearing quartz with cuprite and malachite. 80 x 128 x 40. Empire Flat, Colorado River.
140 Gold bearing quartz with iron pyrites. 40 x 72, 36 x 72. Different localities, marked. 4 spcs.
141 Gold bearing quartz, with crystals of iron pyrites. 28 x 32 x 16. El Dorado Co. Very brilliant.
142 Gold. Same as 139. 48 x 40 x 24.
143 Gold bearing quartz, with tellurium. 56 x 32 x 32. Very rich specimen. Tuolomne Co.
144 Same, with malachite. 56 x 56 x 32.
145 Same, with garnets. 32 x 40. 2 spcs.
146 Gold bearing galenite. 64 x 64 x 48. Meadow Lake, Nevada Co. Fine specimen.
147 Gold bearing galenite in limestone. 48 x 40 x 32. Alaska.
148 Gold. Large granules in conglomerate from depth of 300 ft. below the surface. Very large specimen. 7 x 5 x 4 inches. Gold Run, Placer Co.
149 Gold. Same. 56 x 40. 16 x 32. 5 spcs.
150 Gold. Same. 48 x 64. 48 x 40. 4 spcs.
151 Gold. Same. 64 x 64. 64 x 40. 2 spcs.
152 Gold bearing quartz, various localities. 40 x 64. 48 x 48. 3 spcs.
153 Gold bearing quartz, with galenite and iron pyrites. 72 x 80 x 48. Near Coulterville, Mariposa Co.
154 Gold in diorite. 40 x 64 x 88. Comstock Lode, Virginia City, Nevada.
155 Gold bearing steatite. Amador Co., in form of a ring. 4 spcs.
156 Gold in slate and quartz. 32 x 32. 32 x 24. Scott R., Siskiyon Co. and Grass Valley. 2 spcs.
157 Gold in talcose rock. 40 x 80. Mariposa Co.
158 Gold in serpentine. 20 x 14. 9 x 6. Near Pilot Hill, El Dorado Co. 3 spcs.

159 Gold in dolomite. Amador Co. 9 x 16.
160 Gold bearing quartz, with arsenopyrite. 72 x 40. Near Dry Town, Amador Co.
161 Gold. Same. 24 x 22. 20 x 12. 22 x 16. Near Sitka, Alaska. 3 spcs.
162 Gold bearing sand, with iron pyrites. Various localities. 11 oz. 2 dwt. 5 bottles.
163 Same. Various localities. 32 oz. 3½ pwt. 4 bottles.
164 Gold bearing sand. Various localities. 22 oz. 9 dwt. 4 btls.
165 Gold dust. Very pure, 210 gr., and gold leaf, 6 gr. El Dorado Co.
166 Gold in quartz crystals. Very rich. Small. Near Sutter, Amador Co. 9 spcs.
167 Gold bearing pyrites. Placerville. El Dorado Co. 38 x 32. Also four small specimens. 5 spcs.
168 Gold bearing quartz, with cuprite and malachite; another with arsenopyrite. 64 x 64, 32 x 26. Ara. and Idaho. 2 spcs.
169 Gold and silver bearing quartz, assays $10,000 per ton. 44 x 37. Black Warrior Mine, Arizona.
170 Gold, with galenite and iron pyrites. 30 x 24. Very fine. Leadville, Col.
171 Gold and silver in galenite. British Columbia. 28 x 18. Also gold bearing steatite. 50 x 36. Amador Co. 2 spcs.
172 Gold in quartz, with galenite and malachite. Rich and beautiful. 52 x 38.
173 Gold. Small crystal and laminæ on quartz crystals. Choice. 25 x 21.
174 Gold bearing quartz, with iron pyrites, galenite and bornite. Good lot. 8 spcs.
175 Gold bearing quartz and talc, with free gold. Small. 6 spcs.
176 Gold, with tellurium. 72 x 56 x 32. Very rich. Rare. Bassic Mine, Col.
177 Gold and iridium manufactured in plates for sleeve buttons. 7 x 9. Beautiful and rare. 2 spcs.
178 Gold bearing quartz. Cock Robin M., of Saline Group. Wyoming Territory. 10 spcs.

SILVER.

Dana No. 2.

179 Silver. Native, on calcite with galenite. 48 x 80. Very fine. Batopelas mine, Chihuahua, Mexico. As are also all the specimens to No. 200*a* incl.

180 Silver. Wire. Native, on calcite. 47 x 44. Very fine.

181 Silver. Wire. Native, in calcite. 62 x 44 x 28. Exceedingly fine and very rich.

182 Silver. Native, in reticulated plates and pointed crystals in calcite. One plate curving upward and outward from near centre. Exceedingly fine. 47 x 43 x 36.

183 Silver. Native in fluorite with garnets. Interesting. 96 x 56 x 48.

184 Silver. Native. Radiating from a central point, are fifteen lustrous shafts (three of which are perfectly terminated) with branching crystals; in the rear of which are numerous others diverging from the remaining mass of small, terminated crystals. All associated with calcite showing cleavage. Very beautiful and excessively rare. One of the gems of the collection. See plate V. Wt., 15 oz. 12½ dwt. 34 x 60 x 60.

185 Silver. Native. Long, terminated shaft with numerous clusters of small, and very perfect crystals at base and half way up the shaft, with calcite showing cleavage. Beautiful and very rare. 56x24x10. Wt., 768 gr. See plate V.

186 Silver. Similar, having terminated shafts and clusters of crystals. Exquisite. 26x15x11. 32x13x8. See pl. IX. 2 spcs.

187 Silver. Native. Similar, shafts terminated, also with wire silver, numerous small perfect crystals in calcite. Very rich and beautiful. 39 x 24 x 23. See plate IX.

188 Silver. Native. In thick and twisted wires with calcite and quartz. Beautiful specimens. 18 x 18 x 11. 32 x 15 x 7. 2 pcs.

189 Silver. Native. Converging plates and branching shafts in calcite showing cleavage. Beautiful, with brilliant lustre. 31 x 16 x 13. See plate IX.

190 Silver. Native. Two plates extending upwards from base of quartz. Remarkable and rare. 26 x 28 x 15.

191 Silver. Native. Plate and wire capped with quartz all on quartz base. Exquisite. Brilliant lustre. 23 x 30 x 16.

192 Silver. Native. In thick, reticulated masses with quartz crystals, galenite and green calcite. 30 x 17 x 11.

193 Silver. Native. Terminated shafts and wire. Small but beautiful. 5 spcs.

194 Silver. Native. Plates and laminæ on quartz. Small. Very fine. 4 spcs.

195 Silver. Native in calcite. Rich. 32 x 17 x 20. 4 spcs.

196 Silver. Native. Wire forming large curved mass, numerous pointed crystals in calcite. Fine but shattered. 45 x 32.

197 Silver. Native. Numerous scales, short shafts and moss in calcite. Very fine. 48 x 36 x 24.

198 Silver. Native. Similar with terminated and curved shafts in calcite. Very fine. Choice. 52 x 25 x 28.

199 Silver. Similar specimen with shafts and masses. Very rich. 45 x 25 x 20.

200 Silver. Native. Thick plates covered with wire in fine filaments in calcite. Very fine. 48 x 30 x 26.

200*a* Silver. Native. Curved and pointed shafts and flakes in calcite. 55 x 23 x 6.

201 Silver. Native. Fine filaments forming thick tuft surrounded by octahedral pyrites. 52 x 42 x 15. Exceedingly fine. Rare. Pastrand M., Batopelas Dist., Chihuahua, Mexico. See plate VI.

202 Silver. Native. Same. 30 x 15.

203 Silver. Native. Wire and fine filaments in cavities surrounded by small quartz crystals. 40 x 25 x 20. Very fine. Same mine.

204 Silver. Native. Wire associated with calcite crystals and stephanite. 62 x 32 x 48. V. fine and choice. Same mine.

205 Silver. Native. Shafts, wire, moss, plates reticulated, with calcite. Interesting and beautiful lot. Small. Same mine. 25 spcs.

206 Silver. Native. Same. Smaller. Same mine. 35 spcs.

207 Silver. Native. Thick mass with small terminated crystals. 34 x 24 x 15. Very fine. Same mine.

208 Silver. Native. Wire, curved, with cinnabar. 8 x 14 x 25. Beautiful. Very rare. Suitable for microscopic work. Same mine.

209 Silver. Native. Same. 10 x 28 x 34. Extremely fine. V. r.

210 Silver. Native. Small brilliant filaments on four surfaces of calcite. 25 x 18 x 11. Exquisite. Same mine.

211 Silver. Native. Wire and numerous pointed shafts penetrating calcite. 24x20x15. Very fine. Beautiful. Same m.

212 Silver. Native. Fine filaments, laminæ with quartz. 20 x 18 x 16. Same mine. 4 spcs.

213 Silver. Native. Filaments and small shafts on 5 surfaces of calcite. One polished. 40 x 32 x 32. Very fine and rich. Trinidad Mine. Same locality.

214 Silver. Native. Same. On 4 surfaces of calcite. 1 surface polished. 64 x 28 x 28. Same mine. Very rich. Very fine.

215 Silver. Native. Same, in vein of limestone. 1 surface polished. 20 x 45 x 25. Same mine. Very fine and rich. Rare.

216 Silver. Native. Large, pointed shafts, laminæ, flakes with limestone and proustite. 40 x 42 x 18. Manto de Cobos Mine, Chanarcillo, Rojas, Mex. Fine lot. 7 spcs.

217 Silver. Native. Thick, laminated plates in limestone. Same mine. Wt., 7 oz. 2 dwt. 44 x 39 x 7. Very rich.

218 Silver. Native. Plates serrated, with brilliant shafts in limestone. 61 x 33 x 25. Very fine. Choice. Same mine. See plate VI.

219 Silver. Native. One thick plate with two thinner plates, joined at right angles. 36 x 36 x 17. Same mine.

220 Silver. Native. Numerous masses on 4 surfaces of calcite. 64x49x26. Very fine. Cineo Sonores Mine, Sonora, Mex.

221 Silver. Native. Thick curved wires, with stephanite and calcite. 40x20x12. Beautiful and brilliant. Same m. See pl. V.

222 Silver. Native. Similar, with broad wires, with galenite and small quartz crystals. 33 x 28 x 19. Brilliant. Very fine. Same mine. See plate VI.

223 Silver. Native. Similar, with broad, thick arch expanding at ends, with green calcite and galenite. 24 x 16 x 9. 562 gr. Very fine and lustrous. Same mine. See plate IX.

224 Silver, with stephanite and calcite. 15x11x13. Same m. 3 spcs.

225 Leaf silver on clay. 60 x 36 x 17. 26 x 26 x 8. Very fine. Exceed'g rare. Chapatuato Mine, Michoacan, Mex. 2 spcs.

226 Silver. Native. Masses of pointed crystals, twisted, serrated and interlaced, on seven surfaces of quartz rock. 108 x 56 x 64. Wt., 4 lbs. Extraordinarily rich and magnificent. Extremely rare. Stonewall Jackson Globe Dist., Arizona. See plate VI.

227 Silver. Native. Large, radiating shafts and thick masses in ferruginous quartz, one surface sawed. 82 x 40 x 16. Wt., 2 lbs. Same mine. Extremely rich. Beautiful. See pl. V.

228 Silver. Native. Large, thick mass with copper. One sawed surface. 51 x 28 x 17. Wt., 1⅞ lbs. Remarkably rich. Same mine.

229 Silver. Native. Thick, curved and pointed shafts in ferruginous quartz. 43 x 23 x 27. Very fine. Same mine.

230 Silver. Native. Mass of thick, doubly terminated shafts. 26 x 28 x 16. Very fine. Same mine.

231 Silver. Native. Thick mass of rounded, projecting points, with quartz. 60 x 50 x 18. Wt., 1 lb., 8 oz. Same mine. Remarkably rich and fine.

232 Silver. Native, with native copper and quartz in plates and branches. 64 x 36 x 15. Same dist. Fine. 2 spcs.

233 Silver. Molten silver that has been dropped into water. Wt. 16 dwt. McCracken M., Arizona.

234 Silver. Same. 52 dwt. Tuscarora, Elko Co., Arizona.

235 Silver. Native. Wire, with fine filaments matted. 150 gr. Same mine. Rare. Valuable.

236 Silver. Same. 360 grs. Mineral Park, Arizona. Rare. Valuable.

237 Silver. Native. Single wire with longitudinal striæ, twisted, convoluted and formed into a loop. 27 x 26 x 4. Length of wire actual 7 in. Wt., 248½ grs. Very rare and remarkable. Same mine. See plate IX.

238 Silver. Same. Smaller but also beautiful specimens, with numerous convolutions. 180 grs. 7 spcs.

239 Silver. Same. Beautiful specimens. 167 grs. 6 spcs.

240 Silver. Native. Wire in cavity of quartz crystals, with iron pyrites. 80 x 64 x 48. Same mine.

241 Silver. Native. Thick pointed shafts interlaced with calcite. 48 x 24 x 12. Very fine. Gold Dist., Arizona.

242 Silver. Native. Similar shafts reticulated with sphalerite and calcite. 37 x 24 x 15. Very fine. Same locality.

243 Silver. Native. Broad, upright shaft, with numerous branching shafts, others at base pointed. 28 x 23 x 23. Very fine. Same mine.

244 Silver. Native. Similar, doubly terminated shafts, brilliant lustre. 32 x 17 x 12. 1098 grs. V. f. Same mine. 2 spcs.

245 Silver. Similar reticulated shafts, with cinnabar. 18 x 12 x 7. Same mine. 3 spcs.

246 Silver. Native. Thick, curved wires with quartz. Brilliant and beautiful. Silver King M., Ari. 25 x 16 x 12. 4 spcs.

247 Silver. Similar. Smaller. 5 spcs.

248 Silver. Native. Masses with galenite. Very fine. 38 x 22 x 12. Same mine. See plate V. 3 pcs.

249 Silver. Native. Wire with quartz and sphalerite. 33 x 24 x 14. Brilliant and beautiful. Same mine. See plate V.

250 Silver. Native. Broad shaft curved, reticulated. 24 x 24 x 10. 444 grs. Same condition and mine as last.

251 Silver. Native. Same. Beautiful, curved wire with sphalerite. 16 x 16 x 10. 360 gr. Very brilliant. Exquisite specimens for the microscope. Same mine. 2 spcs.

252 Silver. Native. With long curved wire. 17 x 12 x 8. 500 gr. Brilliant. Same mine. 3 spcs.

253 Silver. Native. Similar. In curved wires and plates. Smaller. 811 gr. Same mine. 12 spcs.

254 Silver. Native, with bornite. 96 x 64 x 48. Very fine. Rare. Bell M. Butte Dist., Montana.

255 Silver. Native. Thick mass of plates in calcite. 44 x 32 x 17. 10 oz. 13 dwt. Minn. Mine, Silver Is., Lake Superior.

256 Silver. Native. Wire and plates reticulated with quartz crystals. 32 x 23 x 4. 3 oz. 4½ dwt. Brilliant and rich. Same mine. 4 spcs.

257 Silver. Native, with native copper, epidote and calcite. 46 x 56 x 32. Fine. Lake Superior.

258 Silver. Native. In quartz with malachite and galenite. 1 with natural polish. 60 x 44 x 28. Various localities. 5 spcs.

259 Silver with galenite. Various localities. 6 bottles.

260 Silver Amalgam. 7 oz. 16 dwt., another 2 oz. Gould and Curry S. M. Co. Virg. City, Nev. 2 spcs.

PLATINUM.

Dana No. 3.

261 Platinum. Native. V. rare. Trinity Co., Cal. 10¾ gr. 8 spcs.

262 Platinum. Native. Very rare. Same locl. 12 gr. 7 spcs.

263 Platinum. Native. Very rare. Same locl. 10 gr. 6 spcs.

IRIDIUM.

Dana No. 7.

264 Iridium. Native. Exceedingly rare and valuable. 112 dwt. Trinity Co., Cal.

MERCURY.

Dana No. 8.

265 Mercury. Native. Liquid in bottle. Very rare and valuable. 25¾ oz.

COPPER.

Dana No. 12.

The following measurements are given in inches.

266 Copper plates with small crystals. 6 x 3 x 2½ Battle Mountain, Nev. Very fine specimen.

267 Copper with thick column with partially brilliant surface. 5¼ x 4 x 2. Lake Superior, Mich. Fine specimen.

268 Copper. Thick plates with malachite. 6 x 4½ x 2½. Crescent City, California.

269 Copper. Crystals with brilliant, reticulated plates, with calcite. 9½ x 8 x 2½. Lake Superior. Unusually fine and grand specimen.

270 Copper. Thick, fan-shaped on thick base. 12 x 8 x 3. L. S., Mich. Very brilliant and reticulated. Splendid cabinet specimen.

271 Copper with silver and calcite. 5 x 5 x 2½. L. S., Michigan. Very fine specimen.

272 Copper. Enlarging column on base with calcite. Height, 8. Base, 4 x 4. Lake Superior, Mich.

273 Copper, with malachite. Thick plate in sandstone. 7 x 5½ x 2½. Queen M., Arizona. Plate has split from stone.

274 Copper, with prehnite and epidote on trap. 6¾ x 5½ x 2½. Lake Superior, Mich. Very fine specimen. .

275 Copper. Thick masses and small crystals, with malachite. 1½ x 3 x 4. 4½ x 2½ x ¾. Battle Mountain, Nev. Very fine.

276 Copper. Plates brilliant, reticulated and curved, with malachite and calcite. 4 x 3½ x 2½. Lake Superior, Mich. Fine.

277 Copper, with malachite. 3½ x 3 x 2. Battle Mountain, Nev.

278 Copper. Plates and masses. 4 x 2½ x 2. Same mine. 3 spcs.

279 Copper. Crystalline and masses, with epidote. 2 x 2 x 1½. Lake Superior, Mich. 8 spcs.

280 Copper, Thin, reticulated plates on quartz. 5¼ x 3½ x 2½. Campseco, Cal. Very fine.

281 Copper. Thick masses in trap rock. 5 x 3 x 3. Lake Superior, Mich. Fine.

282 Copper. Plates reticulated. 2½ x 2½ x 1½. Arizona. 9 spcs.

283 Copper. Thick branch and brilliant retieulated erystals. 4½ x 3½ x 1½. Lake Superior. Very fine. 2 spcs.

284 Copper. Thin plates. 2½ x 2 x 1½. Battle Mountain, Nev.

285 Copper. Bars, manufaetured. 2¼ x 1¼ x 1. Minon Mine, Calaveras Co., Cal. 3 spcs.

286 Copper. Drippings, artifieial, 8 x 5 x 3. 23 oz. L. S.

287 Copper. Slag, and melted. 3 x 2 x 1½. 2 spcs.

IRON.

Dana No. 13.

288 Iron. Meteoric. Slab, 7 x 5 x $\frac{7}{32}$ inches thick, with natural edges. Wt., 1 lb. 7 oz. 2½ dwt. Sawed from a mass weigh-

ing eighty-five pounds, avoirdupois, found in 1870 at Shingle Springs, El Dorado Co., Cal. The remainder of the meteor is in the University of California. For full description, see *American Journal of Science and Arts* Vol. VI, July, 1873, p. 18. Very rare.

ANTIMONY.

Dana No. 18.

289 Antimony. Native, with galenite. Size, 22 x 17 x 15. Hungary. Very fine. Very rare.
290 Antimony. Same. 18 x 15 x 13. Very fine. Very rare.
291 Antimony. Same. 10 x 6 x 6. Fine. Very rare. 2 spcs:
291*a* Antimony. Native. 3 x 3½ x 1½. Lower Cal.

TELLURIUM.

Dana No. 21.

292 Tellurium. 3½ x 1½ x 1. 2 x 1. Hungary. Very rare. 3 spcs.

SULPHUR.

Dana No. 22

293 Sulphur. Crystallized. Numerous perfect crystals on thick mass. 12½ x 9½ x 8½ inches. Humboldt, Nevada. Magnificent and beautiful specimen. Excessively rare.
294 Same. 3 x 2 x 1½ inches. Fine. 7 spcs.
295 Same. Box of small specimens and fragments.
296 Sulphur. Small crystals in cavities. 3 spcs.

DIAMOND.

Dana No. 24.

297 Diamond. Crystal, very perfect form with internal flaw. Weight 2⅞ carats. South Africa.

GRAPHITE.

Dana No. 25.

298 Graphite. Powdered. Wt. 11 oz. Yuma Co., Arizona.

STIBNITE.

Dana No. 29.

Measurements in inches.

299 Stibnite. Crystal. 21 x 3 x 2. Ojoin-Mura, Iyo, Japan. This specimen consists of a cluster of long, straight, brilli-

ant crystals, some perfectly terminated. Very beautiful and valuable.

300 Stibnite. Cluster of crystals interlacing in various directions. 3 x 3 x 2. Beautiful, brilliant, very fine and very rare specimen. See plate VI.

301 Same. 3¼ x 2½ x 1½. Fine. Very rare.

302 Stibnite. In matted crystals. 1⅛ x 1⅞. Bohemia. Very fine. Rare.

303 Stibnite. Massive and in bent fibres. 4½ x 3 x 2, 1½ x 1. Monterey Co., Cal. Gold Hill, Nev. 3 spes.

304 Stibnite. Long, brilliant fibres, in thick mass. 4 x 4 x 3. Cal.

305 Stibnite. In long, thick fibres. 7½ x 2 x 1½. Aur. M. Clover Flat, Piute, Utah.

306 Stibnite. Broad, thick fibres; massive. 4½ x 3 x 2. 3 spes.

307 Antimony. Artificial. 4¼ x 3½ x 2½. Ojoin-Mura, Iyo, Japan.

308 Same. 2 x 2¾, 3 x 2½ x 1¼, 2 spes.

ARGENTITE.

Dana No. 40.

309 Argentite and arsenopyrite, fine octahedral crystals, with native wire silver. 4¾ x 4¼ x 2. Mineral Park, Arizona. Remarkably fine. Rare.

310 Argentite and arsenopyrite, cubes and octahedral crystals with wire silver. 6 x 4 x 2. Same locl. Very fine. Rare.

311 Argentite with azurite and malachite. 2 x 2 x 1¼. Owen Dist., Ara. Very rich.

GALENITE.

Dana No. 44.

312 Galenite containing silver and antimony. 4½ x 4 x 4. Humboldt, Nev. Very rich. Rare.

313 Galenite. Same. 2¾ x 2 x 1¾. Same locality. 4 spes.

314 Galenite. Same with iron pyrites. 4 x 2½ x 1½. 2½ x 2 x 1¾. Same locality. 2 spes.

315 Galenite. Same with malachite. 3 x 2½ x 2¼. Same locality. 4 spes.

316 Galenite. Same, without malachite. 4 x 2½ x 3. Same locality. 2 spes.

317 Galenite. Same. 3¾ x 3½ x 1½. Same locality. 6 spes.

318 Galenite. Same. 3 x 2½ x 1½. Yreka, Nev. Very rich.

319 Galenite. Same, with iron pyrites. 5 x 3¼ x 2½. Winemuck, Nev. Very rich.
320 Galenite with silver and chalcopyrite. Various localities. 4 x 3 x 2½. 5 spcs.
321 Galenite with silver and iron pyrites. 4 x 3 x 2. Various localities. 4 spcs.
322 Galenite with chalcopyrite. 7½ x 5 x 5½.
323 Galenite with silver. 4 x 3 x 2. Utah, Nev. 4 spcs.
324 Galenite with silver and chalcopyrite. 3½ x 3 x 2½. Various localities. Rich. 4 spcs.
325 Galenite with silver and malachite. 5½ x 3½ x 2. 3½ x 2½ x 2. Various localities. 6 spcs.
326 Galenite, with native silver. 4¼ x 4 x 1½. Prescott, A. T.
327 Galenite, with silver and chalcopyrite. 6½ x 3½ x 2½. Japan.
328 Galenite, with polybasite. 4 x 3 x 2½. Gold Hill, Nev. Very rich.
329 Galenite, with cobalt ore. 4½ x 3 x 2. St. Francis Co., Mo. Very rare.
330 Galenite, with silver and calcite, showing cleavage. 4 x 3 x 3. Various localities. 4 spcs.
331 Galenite, with azurite and chrysocolla. 3½ x 3 x 1½. Utah.
332 Galenite, with silver. 3½ x 2¾ x 2. Humboldt, Nev. Mariposa Co., Cal. 4 spcs.

BORNITE.

Dana No. 49.

333 Bornite. 5½ x 4 x 3. Lights Cañon, Plumas Co., Cal. V. f.
334 Bornite. 4½ x 3 x 1½. Very fine. Iridescent. Same locality.
335 Bornite. 3½ x 2½ x 1½. Same locality. 5 spcs.
336 Bornite, with chalcopyrite and malachite. 9 x 6 x 6. San Carlos M., Ar. Very fine.

SPHALERITE.

Dana No. 56.

337 Sphalerite. Massive. 4½ x 3½ x 2½. Humboldt, Nev.
337*a* Sphalerite. Brilliant crystals. 6½ x 5 x 3½. Cumberland, Eng. Very fine.
337*b* Sphalerite. Same. 4 x 2½ x 2. Same locality. 5 spcs.
337*c* Sphalerite. Same, with crystals of calcite. 6 x 4 x 3½.

HESSITE.

Dana No. 58.

338 Hessite in long, brilliant, thick fibres on four surfaces of quartzite. 3 x 2½ x 2. Hungary, Germany. Very fine. Very rare.

CINNABAR.

Dana No. 64.

339 Cinnabar. Brilliant crystals. 2½ x 2½ x 1½. Beautiful and extremely fine. New Almadan Mine, Cal. See plate VIII.

340 Cinnabar in small fine fibres. 5 x 3 x 2½. Napa Co., Cal.

341 Cinnabar. Massive. 3½ x 3¾ x 2½. Santa Clara Co., Cal. Very fine. 2 lbs. 2 oz. 13 dwt.

342 Cinnabar. Numerous needle-like crystals. 4 x 3 x 2. Napa Co., Cal. Very fine.

343 Cinnabar. Numerous clusters of needle-like crystals on two surfaces of iron pyrites. 4 x 3½ x 2. Same locality. Very fine.

344 Cinnabar. Crystals on two surfaces of limestone, with globules of free mercury. 4½ x 3¾ x 1½. New Almadan Mine. Cal. Rare and very fine. See plate VIII.

345 Cinnabar. Numerous fine crystals in cavity and on two surfaces. 3½ x 2¾ x 1½. Napa Co., Cal.

346 Cinnabar. Numerous clusters of small crystals on two surfaces of iron pyrites. 5 x 4 x 2. Napa Co., Cal. See plate VIII.

347 Cinnabar. Massive. 3½ x 3¼ x 2. San Louis Obispo Co., Cal. Very fine.

348 Cinnabar in veins in calcite. 4½ x 2½ x 3. Same locality.

349 Cinnabar. Numerous fine crystals on two surfaces of pyrites. 4 x 3 x 1¼. Napa Co.. Cal.

350 Cinnabar. Massive, with crystals of calcite. 4½ x 3 x 2½. Fresno Co., Cal. Fine.

351 Cinnabar. Massive. 4 x 4 x 2½. Some locality. Fine.

352 Cinnabar. Crystals in cavity of limestone also fine crystals in glass tablet. New Almadan, Cal. Very fine. 2 pcs.

353 Cinnabar in veins and on surface of flint. 4 x 3 x 2½. Napa Co., Cal.

354 Cinnabar. Crystals on surface of quartz crystals. 4 x 3 x 2. New Almadan M., Cal.

355 Cinnabar. Massive in quartz. Sonoma Co., Cal. 4 pcs.

356 Cinnabar. Long, brilliant fibres surrounded by small quartz crystals, on quartz rock. 3 x 2½ x 1½. 5 x 2½ x 3. Napa Co., Cal. 2 spcs.

357 Cinnabar. Large, rounded masses of crystals with marcasite. 9 x 7 x 3½. Napa Co., Cal. Very rare.

358 Cinnabar. Massive in quartz. 4 x 3 x 2. Fresno Co., California. 2 spcs.

359 Cinnabar. Clusters of brilliant red crystals around cavities of flint. 4 x 3 x 2½. Napa Co. Very fine.

360 Cinnabar. Numerous small crystals on two surfaces of marcasite. 4 x 3 x 1½. Napa Co., Cal. Very fine.

361 Cinnabar, massive. 4½ x 3 x 2. Same locality.

362 Cinnabar. Clusters of minute deep red crystals and veins. 2 x 1½ x ¾. Same Co. Very fine. 3 spcs.

363 Cinnabar, massive. 2½ x 2¼ x 1¼. 2 x 1½ x 1½. 3½ x 2⅜ x 2½. Santa Clara Co., Obispo Co., Cal. 3 spcs.

364 Cinnabar. Crystals with limestone. 6 x 4 x 2. New Almadan M., Cal. Very fine.

365 Cinnabar with stibnite also manufactured. 2 pcs.

366 Cinnabar, rounded pebble. 1¼ x 1 x ¾. Borneo. Rare.

367 Cinnabar. Massive. 7½ x 5 x 2. New Almadan Mine, Cal. Very fine. Rich.

368 Cinnabar. Crystals on three surfaces, of quartz. 7½ x 5 x 3. Same mine. Very fine.

369 Cinnabar. Crystals. 8½ x 5 x 3. Same mine. Very fine.

370 Cinnabar on three surfaces of calcite. 5½ x 4 x 4. Same mine. Very fine.

371 Cinnabar. Massive, deep red. 9 x 5½ x 2½. Same mine. Very fine. Suitable for museum.

372 Cinnabar. Massive, two surfaces. 5½ x 3½ x 1½.

373 Cinnabar. Veins in limestone. 6 x 4 x 2. Same mine.

374 Cinnabar. Massive in veins. 4½ x 4 x 3½. Napa Co. Very fine.

375 Cinnabar. In thick, flat plate, smooth surfaces. 5½ x 1¾ x ⅜. Santa Clara Co., Cal.

376 Cinnabar. Numerous clusters of fine lustrous crystals around cavities of flint, with marcasite. 3¼ x 2¼ x 3 Very fine.

377 Cinnabar. Veins and coating on clay. 4½ x 2½ x 2. 3½ x 2 x 1½. Napa Co., Cal. 2 spcs.

MILLERITE.

Dana No. 66.

378 Millerite. Numerous hair-like crystals in clusters, in cavities with crystals of dolomite. 6 x 4½ x 3½. St. Louis, Mo. Very fine. Rare.

PYRITE.

Dana No. 75.

379 Pyrite. Crystals. 3 x 2 x 1¼. Chessy, France. Brilliant.
380 Pyrite. Crystals on slate. 6 x 4 x ¼. Amador Co., Cal.
381 Pyrite. Cubic crystals, very brilliant with quartz. 4 x 3 x 1. Colorado. Very fine.
382 Pyrite. Large crystals striated, connected on sphalerite. 3 x 2 x 2. Cornwall, England. Very fine. Rare.
383 Pyrite. Crystals with sphalerite. 3 x 1½ x 1. Alpine Co., Cal. 4 spcs.
384 Pyrite. Large, imperfect crystals. 3¼ x 2 x 1¼. Wis. Nev. 3 spcs.
385 Pyrite. Crystals striated; octohedral, auriferous. Placer Co., Cal. 47 spcs.
386 Pyrite. Massive, with marcasite. 4 x 3 x 2½. Mineral Point, Wis.
387 Pyrite, auriferous. 4¾ x 4 x 2. Gilpin Co., Col.

CHALCOPYRITE.

Dana No. 78.

388 Chalcopyrite, with pyrite. 3½ x 2½ x 2. British Columbia. Brilliant.
389 Chalcopyrite. 5 x 4 x 1½. Brilliant.
390 Chalcopyrite. 4½ x 4 x 3½. British Columbia.
391 Chalcopyrite, with malachite. Various localities. 3½ x 3 x 2. 3 spcs.
392 Chalcopyrite. 6½ x 4 x 2. Calaveras Co., Cal. 5 spcs.
393 Chalcopyrite, with quartz. 8 x 4. 5 spcs.
394 Chalcopyrite, with stephanite and quartz crystals. 4½ x 5½. Zacatecas, Mex.
395 Chalcopyrite, with galenite and calcite crystals. 10 x 4½ x 4. Mexico.

MARCASITE.

Dana No. 90.

396 Marcasite. Globular mass with sphalerite. 4½ x 4 x 2½.
397 Marcasite ball sawed in two. Dia. 2. Near Weaverville, Trinity Co., Cal.
398 Marcasite. 5½ x 2½ x 2½. Very brilliant.

MIARGYRITE.

Dana No. 108.

399 Miargyrite with chalcopyrite. 2 x 1½ x 1¼. Tuscarora, Elko Co., Nevada.

400 Miargyrite. Same. 2½ x 2½ x ¾. 1½ x 1. 2 spcs.

401 Miargyrite. Same, also with pyrites. 2½ x 2 x 1½. 2 x 1½ x 1. Same locality. 28 spcs.

402 Miargyrite. Square striated crystals on thick base. 6 x 4 x 3. Isabel mine, near Austin, Nev. Very fine and rich. Exceedingly rare.

403 Miargyrite, crystalline, surrounded by calcite crystals. 2½ x 2 x 1½. Batopelas Dist., Chihuahua, Mex. Very fine.

404 Miargyrite with pyrite. 3½ x 2½ x 2½. Tuscarora, Elko Co., California.

405 Miargyrite with pyrite. 4½ x 3 x 1½. Same locality.

406 Miargyrite with proustite. 3 x 3 x 2½. Manhattan mine, near Austin, Nev.

PYRARGYRITE.

Dana No. 117.

407 Pyrargyrite with proustite, one surface polished. 2½ x 2¼ x 1½. Reese River, Nev.

408 Pyrargyrite, cubic and elongated on thick base. Exceedingly fine. 9 x 3¼ x 2½. Same locality. Very rare.

409 Pyrargyrite with pyrite, 3½ x 2½ x 2. Tuscarora District, Elko Co., Nev.

PROUSTITE.

Dana No. 118.

410 Proustite in quartz. 7 x 3½ x 2¼. Reese River, Nev.

411 Proustite, 3 bright surfaces. 4½ x 4 x 3. Same locl. V. rich.

412 Proustite with pyrargyrite. 3½ x 2½ x 1½. Rich and very fine. Batopelas Dist., Chihuahua, Mex.

413 Proustite with pyrargyrite. 2½ x 1½ x 1¼. V fine. Same locl.

414 Proustite with pyrargyrite. 3 x 2 x 1. 1 large, 5 small. 6 spcs.

415 Proustite showing crystals and brilliant fracture. Suitable for microscope. 12 small spcs.

416 Proustite. Same in cubic crystals. Small. Reese R., Nevada. 34 spcs.

417 Proustite with pyrargyrite. 3½ x 3 x 2. 2½ x 1½ x 1. 2 x 12½. Isabella Mine, near Austin, Nev. 3 spcs.

418 Proustite. Same. 3 x 2½ x 1¼. Reese R., Nev.
419 Proustite. Same with cerargyrite. 3½ x 3 x 2. White Pine, Nev. Very rich.
420 Proustite. Same. 4½ x 4 x 2½. Mexico. Very rich.
421 Proustite. Massive. 5 x 3 x 2½. Reese R., Nev. Rich.
422 Proustite. 5 x 3 x 3. Manhattan M., near Austin, Nevada. Very rich.
423 Proustite. 4 x 2½ x 1½. 1½ x 1½. Reese R., Nev. 2 spcs.

STEPHANITE.

Dana No. 130.

424 Stephanite, with small quartz crystals on quartz. 8 x 5¼ x 5½. Lewis District, Lander Co., Nev.
425 Stephanite on quartz. 4½ x 3½ x 3¼. Sinoloa, Mex.
426 Stephanite with quartz crystals. 2½ x 3 x 2½. Lewis District, Lander Co., Nev.
427 Stephanite. Crystals in cavity with pyrite. 4 x 2½ x 2. Tuscarora, Elky Co., Nev. Very fine.
428 Stephanite crystals in cavities with pyrite. 5 x 4 x 3. Tuscarora, Elko Co., Nev. Remarkably fine.
429 Stephanite crystals in cavities with pyrite. 7 x 6 x 2½. Same locality. Very fine.
430 Stephanite. Same. 8 x 6½ x 2. Same locality. Very fine. Suitable for museum.
431 Stephanite. Same. 2½ x 1½ x 1½. Same locality. 4 spcs.
432 Stephanite cluster of large crystals. 1½ x 1¼ x 1. Same locality. Very fine.
433 Stephanite crystallized. 2½ x 1½ x 1¼. Same locality. See plate VI. 5 spcs.
434 Stephanite. Perfect, iridescent crystals; two intersecting, like St. Andrew's cross. 1½ x 1 x ½. A little gem.
435 Stephanite crystals and reticulated surfaces, with wire silver. Small. Same locality. 26 spcs.
436 Stephanite. Same. Mexico and Nevada. Large lot of small but fine specimens, suitable for microscope.
437 Stephanite. Large perfect crystal with quartz crystals. 2¼ x 2 x 1½. Virginia City, Nevada. Remarkably fine.
438 Stephanite. Same. 2 x 1¾ x 1. Same locality. Fine.
439 Stephanite with proustite. 2½ x 2 x 12. Sonora, Mex. 2 spcs.
440 Stephanite with native silver. 3 x 2 x 1. Belmont, Nev. 4 spcs.
441 Stephanite crystals. Free from rock. Brigham M. Co., Utah. Wt., 6¾ oz. 2 bottles.

442 Stephanite. Same. Wt., 6½ oz. 2 bottles.
443 Stephanite. Same. Wt., 10 oz. 3 bottles.
444 Stephanite. Impure. Wt., 6 oz. 3 bottles.

POLYBASITE.

Dana No. 131.

445 Polybasite crystals with quartz crystals. 5 x 5 x 3. Virginia City, Nev., as are also the following lots, to 465, inclusive:
446 Polybasite with quartz. 3 x 2½ x 1½.
447 Polybasite with chalcopyrite. 4 x 3 x 2.
448 Polybasite. Same. 3½ x 2½ x 1½.
449 Polybasite. Same. 4 x 3 x 3.
450 Polybasite. Same. 4 x 4 x 2. Very fine.
451 Polybasite crystals with native silver. 4 x 2½ x 2.
452 Polybasite with pyrite. 3 x 2½ x 1½.
453 Polybasite. Same. 4 x 2½ x 1½. Very rich.
454 Polybasite with chalcopyrite. 4 x 3 x 2. 2 spcs.
455 Polybasite. Same. 5½ x 3¼ x 2½. Rich. 3 spcs.
456 Polybasite with pyrite. 4½ x 3½ x 2½. 2 spcs.
457 Polybasite with chalcopyrite. 7½ x 5½ x 5. Very rich.
458 Polybasite. Same. 7 x 5½ x 3.
459 Polybasite. Same. 3½ x 2½ x 3. 2 spcs.
460 Polybasite crystals and in veins. 4½ x 4 x 1½. 2½ x 2. 2 spcs.
461 Polybasite with chalcopyrite, 4 x 3½ x 2½. 2 spcs.
462 Polybasite. Same with galenite. 4½ x 3 x 2½. 3 spcs.
463 Polybasite crystals with chalcopyrite. 4 x 2½ x 2½. 4 spcs.
464 Polybasite with galenite. 4½ x 4 x 4. 4 spcs.
465 Polybasite. Small, prominent crystals with quartz. 3x2½x1½. Very fine.
466 Polybasite crystals, with chalcopyrite. 5½ x 3½ x 2. Gold Hill, Nev., as are also the following lots to No. 473, incl.
467 Polybasite, with chalcopyrite. 4 x 2 x 1½. 2 spcs.
468 Polybasite crystals, with quartz. 3½ x 2½ x 2. V. f. 2 spcs.
469 Polybasite crystals. 5 x 3½ x 1½. Very rich. 2 spcs.
470 Polybasite crystals, in cavities with quartz crystals. 4½ x 2 x 2. Very fine. 2 spcs.
471 Polybasite crystals, with chalcopyrite. 4 x 3 x 2½. Very rich. 3 spcs.
472 Polybasite crystals, in cavities with quartz crystals. 3½ x 3 x 2. 3 spcs.
473 Polybasite, with chalcopyrite. 5 x 3 x 2½. 4 spcs.
474 Polybasite, with quartz crystals. 8¼ x 3½ x 3. Betty O'Neal Mine, Lewis Dist., Lander Co., Nev.

475 Polybasite. Small crystals, with quartz crystals. Same locality. 8 x 5 x 5. Fine specimen for museum.
476 Polybasite. Fine hair-like crystals, with quartz crystals. Same mine. 5½ x ½. Very rare and fine.
477 Polybasite, with pyrite crystals and quartz crystals. 8 x 5 x 6. Tuscarora, Nev.
478 Polybasite, with quartz crystals and malachite. 8 x 5 x 2. Eagle M., Nev.
479 Polybasite, with proustite and pyrite. 8 x 5 x 2½. Lewis Dist., Lander Co., Nev. Fine.
480 Polybasite, with native silver and pyrite. 4½ x 2½ x 2½. Mineral Park, Arizonaa.
481 Polybasite, with proustite. 4 x 2½. Utah, Nev. 2 spcs.
482 Polybasite, with wire silver. 5½ x 4 x 3. Elko Co., Nev.
483 Polybasite. 3 x 3 x 2. Comstock Lode, Nev.
484 Polybasite, malachite and galenite. 5 x 5 x 3. San Bernardino Co., Cal. 2 spcs.
485 Polybasite. Large globular masses, with flint. Different mines. 5 x 3½ x 1½. 3 spcs.
486 Polybasite, with native silver and galenite. 5 x 2½ x 3½. Ara.
487 Silver ore with galenite and native silver. 4 x 2½ x 2. Humboldt and Belmont, Nev. 5 spcs.
488 Silver ore with galenite, pyrite, malachite and azurite. 2½ x 2 x 1½. Humboldt and Pioche, Nev. 4 spcs.
489 Silver ore with galenite. One surface natural polish. 4½ x 3 x 2½. Different mines. 3 spcs.
490 Silver ore with pyrite and calcite crystals. 4 x 2½ x 1½. Mariposa Co., Cal.
491 Silver ore with native silver and pyrite crystals. 4½ x 2½ x 2. Various mines. Rich. 4 spcs.
492 Silver ore with galenite and pyrite. Various Mines. 4 x 2½ x 2. 4 spcs.

ENARGITE.

Dana No. 132.

493 Enargite. Thick vein in chalcopyrite and limestone. 2 x 1½ x 1. Alpine Co., Cal. Very rare.

HALITE.

Dana No. 138.

494 Halite. Large, square, clear crystal. 2¾ x 2¼ x 1. Bolivia. Very fine.

495 Halite. Cubic, serrated, connected crystals. 4 x 2½ x 2. 2½ x 1¾ x 1½. Very fine. Esmeralda and Eureka Cos., Nev. 2 spcs.

CERARGYRITE.

Dana No. 140.

496 Cerargyrite. 4 x 4 x 2½. Eureka, Nev. Very rich.
497 Cerargyrite. 4 x 3 x 1½. Candelaria District, Nev. Very fine.
498 Cerargyrite. 2⅞ x 1¾ x 1½. San Bernardino Co., Cal. 3 spcs.
499 Cerargyrite with azurite. 3 x 2 x 2. Fine. Eureka, Nev. 2 spcs.
500 Cerargyrite with chalcopyrite. 3¼ x 2 x 1⅞. Cal. 2 spcs.
501 Cerargyrite. 6 x 3½ x 2. Nev. Very rich.
502 Cerargyrite crystals and embolite. 5½ x 2 x 1. Belmont. Nev. Very fine. 2 spcs.
503 Cerargyrite with malachite. 5 x 2½ x 1½. Nev. V. rich. 2 spcs.
504 Cerargyrite crystals in cavities. 4 x 3 x 2½. Pima Co., Ara. Fine color. Very rare, rich and fine specimen.
505 Cerargyrite with malachite. 3½ x 2½ x 1½. Nev. Fine deep color. 2 spcs.
505*a* Cerargyrite. Crystalline masses in cavitiec. 6 x 4 x 4. Very fine. Ar.
506 Cerargyrite in jasper. 3 x 2 x 2½. Ara., Cal. 2 spcs.
507 Cerargyrite crystals. 5 x 2½ x 1. Various. V. rich. 4 spcs.
508 Cerargyrite with embolite. 3½ x 2 x 1⅞. Very rich. Ara.
509 Cerargyrite with azurite. 4 x 2 x 1½. Ara.
510 Cerargyrite crystals. 6½ x 2½ x 1½. Ar., Nev. V. rich. 2 spcs.
511 Cerargyrite with embolite. 6½ x 3 x 1½. Cal. V. rich. 2 spcs.
512 Cerargyrite. 4 x 3 x 1½. Cal., Mex. 2 spcs.
513 Cerargyrite with malachite. 6 x 4 x 3½. San Bernardino Co. California.
514 Cerargyrite with embolite. 6½ x 3 x 2. Very rich. Mex.
515 Cerargyrite. 6½ x 4½ x 2. Rich. 2 spcs.
516 Cerargyrite with malachite. 2 x 2 x 2. Mammoth Mine. Utah. Very rich. 2 spcs.
517 Cerargyrite. 2½ x 2 x 1. Belmont, Nev. 2 spcs.
518 Cerargyrite. 5 x 2 x 3½. Cal.
519 Cerargyrite with malachite. 5½ x 2 x 2. Nev. 2 spcs.
520 Cerargyrite. 5½ x 3 x 3. Mexico.
521 Cerargyrite. 5 x 2 x 2. Very rich.
522 Cerargyrite. 4 x 2½ x 2. Nev. 2 spcs.
523 Cerargyrite with malachite. 2½ x 2¼ x 1. Cal. 2 spcs.
524 Cerargyrite. 4 x 3 x 2½. Nevada, Arizona. 3 spcs.

525 Cerargyrite with galenite. 3 x 2½ x 1½. Arizona. 3 spcs.
526 Cerargyrite with malachite. 3½ x 3 x 1. Nevada. Very rich.
527 Cerargyrite. 8 x 7 x 3. Very rich.
528 Cerargyrite. 3 x 2½ x 1½. Nevada. Rich. 2 spcs.
529 Cerargyrite with malachite. 3½ x 2½ x ½. Arizona. Rich.
530 Cerargyrite. Same. 4 x 2 x 2. Idaho, Nevada. 2 spcs.
531 Cerargyrite. 3 x 2½ x 2. Near Eureka, Nev. Rich. 2 spcs.
532 Cerargyrite with malachite. 4½ x 4 x 3. Nev. Ar. 3 spcs.
533 Cerargyrite. 3 x 3 x 2. Nevada. Rich.
534 Cerargyrite. 3½ x 2½ x 2½. California. Very rich.
535 Cerargyrite with galenite. 4 x 3 x 2. Cal. V. rich. 2 spcs.
536 Cerargyrite. 4 x 2½ x 2. Very rich.
537 Cerargyrite with malachite and galenite. 3 x 3½ x 2½. Nev., Utah. 4 spcs.
538 Cerargyrite. California. Very rich. Bottle and box.
539 Cerargyrite with malachite. Nev. 3½ x 3 x 2. 3 spcs.
540 Cerargyrite. 2½ x 2½ x 1. So. America.
541 Cerargyrite with malachite. 4 x 2½ x 1½. Nevada.
542 Cerargyrite. 4½ x 4 x 3. Nevada. 4 spcs.
543 Cerargyrite with azurite. 2½ x 1½. Nevada. 7 spcs.
544 Cerargyrite with malachite. 3 x 1½ x 1. Mono. Co., Cal.
545 Cerargyrite. 3 x 2½ x 1½. Mexico. 5 spcs.
546 Cerargyrite with selenite. 10 x 5½ x 3. Cal.
547 Cerargyrite. 5 x 4 x 2¼. Nevada.
548 Cerargyrite with malachite. 4 x 3 x 2. Cal. Very rich.
549 Cerargyrite. 4 x 3 x 2. Ara. Very rich.
550 Cerargyrite. 4 x 2 x 3. Nev. Rich.
550*a* Cerargyrite with malachite. 4 x 2½ x 2. Arizona. Nevada. Rich. 3 spcs.
551 Cerargyrite with chaleopyrite and galenite. 4 x 3 x 2. Nev. Rich.
552 Cerargyrite with malachite. 5 x 3 x 2½. Cal. 2 spcs.
553 Cerargyrite. 5 x 3½ x 2. Nev., Cal. 2 spcs.
554 Cerargyrite. 3½ x 2½ x 2½. Nev., Utah. 4 spcs.
555 Cerargyrite with malachite. 5 x 4 x 3. Cal. Rich. 2 spcs.
556 Cerargyrite. 2½ x 2 x 1½. Nev. 3 spcs.
557 Cerargyrite with galenite. 4 x 2½ x 2. Nev. 2 spcs.
558 Cerargyrite with malachite. 4½ x 2½ x 2. Col., Nev. 2 spcs.
559 Cerargyrite. 4 x 3½ x 2. Cal., very rich. 2 spcs.
560 Cerargyrite with azurite. 4 x 3 x 1½. Nev., Ara. 2 spcs.
561 Cerargyrite with malachite. 3 x 2½ x 1½. Mex., Nev. 2 spcs.
562 Cerargyrite. 3 x 1¾ x ¾. Nev. Very rich.

563 Cerargyrite with malachite and galenite. 3½ x 3 x 2. Ara., Nev. Rich. 4 spcs.
564 Cerargyrite crystals in cavities. 3½ x 3 x 2. Ara. Very fine.
565 Cerargyrite with galenite. 4½ x 4 x 2. Ara., Nev. V. rich. 2 spcs.
566 Cerargyrite. 4 x 2 x 1½. Ara., Nev. 4 spcs.
567 Cerargyrite crystals. 4 x 3 x 2. Ara. 2 spcs.
568 Cerargyrite. 6½ x 5 x 2½. Very rich.
569 Cerargyrite with chalcopyrite. 4 x 2¼ x 2. Nev., Ara. 4 spcs.
570 Cerargyrite. 6 x 2½ x 2. Rich. 6 spcs.
571 Cerargyrite pulp. Ara., Nev., Cal. 6 bottles.
572 Cerargyrite with malachite. 3½ x 2½ x 1½. Utah. 5 spcs.
573 Cerargyrite. 2½ x 1½ x 1½. Utah. Very fine.
574 Cerargyrite. 3½ x 2 x 1½. 6 spcs.

FLUORITE.

Dana No. 159.

575 Fluorite large cubic crystals. 5 x 4 x 2½. Derbyshire, Eng. Fine violet color.
576 Fluorite small crystals. 5 x 3 x 2. Same locality. Fine purple color.
577 Fluorite crystals. 3 x 2½ x 2. Same locality. Fine purple twin crystal.

CUPRITE.

Dana No. 172.

578 Cuprite on malachite. 6 x 5½ x 2½. Arizona. Very fine.
579 Cuprite with malachite. 5 x 4 x 2. Arizona. Fine.
580 Cuprite crystals. Two octahedral, one dodecahedral. Chessy, France. 3 spcs.
581 Cuprite with malachite and native copper. 4¼ x 3 x 1. Nev., Utah. Very rich. 3 spcs.

HEMATITE.

Dana No. 180.

582 Hematite. 5 x 3 x 2½. Missouri.
583 Hematite. 5½ x 3½ x 1¾. Missouri.
584 Hematite with bornite. 5 x 3 x 2. Mississippi.
585 Hematite. 4 x 3½ x 1½. Missouri. 4 spcs.
586 Hematite. 2 x 1½ x 1. 9 spcs.
587 Hematite. 6 x 4 x 2½. Missouri. 2 spcs.
588 Hematite. Core from diamond drill. 3½ x 1½. Wisconsin.

589 Hematite. 4½ x 3. Wisconsin. 5 spcs.
590 Hematite. 6½ x 2 x 1½.
591 Hematite. Micaceous. 3 x 2 x 1. Ara., L. S. 2 spcs.
592 Hematite. 3 x 2½ x 2. California. 3 spcs.

MAGNETITE.

Dana No. 186.

593 Magnetite. 3 x 1½. Denney's Creek. Wash. Ter.
594 Magnetite in chlorite. 2½ x 1½ x 1. Near Shingle Springs, El Dorado Co., Cal. 2 spcs.
595 Magnetite with cuprite and malachite. 3 x 2½ x 2. Lake Co., Cal. 2 spcs.
596 Magnetite. Lodestone. 2½ x 2 x 1½. 2 x 2 x 2. Hot Springs, Ark. Very strong. 2 spcs.
597 Magnetite, one surface polished. 2 x 1½. Same locality. Very strong. 3 spcs.

CHROMITE.

Dana No. 189.

598 Chromite. 3 x 2½ x 1½. Del Notre Co., Cal. 4 spcs.

CASSITERITE.

Dana No. 192.

599 Cassiterite with albite. 3½ x 3 x 3. Dak.
600 Cassiterite crystals. Very brilliant. 1¼ x 1¼ x 1. Zinnwald, Bohemia.
601 Cassiterite. 2½ x 1½ x 1½. Cornwall, Eng.
602 Cassiterite. Artificial. 2 bars. 5 x 1½ x ½. 1½ x 1. Mex.
603 Cassiterite powder. Cal. Rich. 1 bottle.
604 Cassiterite. Rolled pebbles. Mex. 1 box.
605 Cassiterite. Bar. 2½ x ½. Also artificial. 3 x 2. Dak. 2 spcs.
606 Cassiterite. Rolled pebbles. 2 x 1½ x 1. Mex. 2 spcs.
607 Cassiterite in granite. 4 x 4 x 2½. Dak. 2 spcs.
608 Cassiterite in granite. 5 x 3½ x 2½. Dak.
609 Cassiterite. 3½ x 3 x 2. Dak. 2 spcs.
610 Cassiterite. Small pebbles. Mex. Very rich. 1 box.
611 Cassiterite. 3 x 3 x 2. Cal. Very rich. 2 spcs.

MINIUM.

Dana No. 197.

612 Minium. Large surface in quartzite. 6 x 4 x 3. Castle Dome Dist., Ara. Magnificent specimen and exceedingly rare. Well worthy of special attention.

613 Minium in quartzite and calcite. 3 x 2½ x 2. Same locl. V. f.
614 Minium. Same. 2 x 1 x ½. 2 spcs.

GÖTHITE.

Dana No. 204.

615 Göthite. 3 x 1½ x 1½. Ara.

LIMONITE.

Dana No. 206.

616 Limonite. Fibrous. 5½ x 4½ x 3. Alabama.
617 Limonite. Iridescent. 5½ x 3 x 2. Cal., Nev. 3 spcs.
618 Limonite pseudomorph after pyrite, auriferous. 4 x 2½ x 2½. California.

PSILOMELANE.

Dana No. 217.

619 Psilomelane. 4 x 2½ x 2. Los Gatos, San Clara, Cal. Rare. Very rich.
620 Psilomelane. 3 x 2 x 2. Contra Costa Co., Cal.

PARTZITE.

Dana No. 228.

621 Partzite. 3½ x 2½ x 2. Mono Co., Cal. Very rich.
622 Partzite with malachite. 5 x 4 x 3½. Same locality. Fine specimen, suitable for museum.
623 Partzite. 3 x 3 x 1½. Same locality. 2 spcs.
624 Partzite. 3 x 2 x 1. Same locality. 2 spcs.
625 Partzite. 2½ x 2 x 2. Same locality. 2 spcs.
626 Partzite. 1½ x 2½ x 2½. Same locality. 2 spcs.
627 Partzite. 2½ x 2 x 1¼. Same locality. 4 spcs.
628 Partzite. 3½ x 2 x 1½. Same locality. 4 spcs.
629 Partzite. 3 x 3 x 2. Same locality. 4 spcs.
630 Partzite, with malachite. 3½ x 2½ x 2. Nev. Ara. 2 spcs.

QUARTZ.

Dana No. 231.

631 Rock Crystal. 6½ x 3. Placer Co., Cal. Very fine.
632 Rock Crystal, massive, containing chlorite. 6 x 2½. 3 x 1½. Placerville, El Dorado Co., as are the following to No. 641, inclusive. 2 spcs.

633 Rock Crystal, two crystals joined at base. 5 x 3½ x 3½. 4½ x 4 x 3. Fine. 2 spcs.
634 Rock Crystal, doubly terminated. 7½ x 4. Very fine.
635 Rock Crystal. 9½ x 5 x 4. V. f. Suitable for a museum.
636 Rock Crystals in cluster. 5 x 3 x 2½. Fine. 2 spcs
637 Rock Crystals in cluster. 4½ x 4 x 3. Very fine. 2 spcs.
638 Rock Crystals in cluster. 5 x 4 x 1½. Fine. 4 spcs.
639 Rock Crystals in cluster. 6 x 4 x 4. Fine.
640 Rock Crystals in cluster. 6 x 4 x 2½. Very fine. 2 spcs.
641 Rock Crystals in cluster. 6 x 4 x 3. Very fine. 2 spcs.
642 Rock Crystals in cluster with pyrite. 6 x 5 x 3. Near Ophir., Placer Co., Cal. Very fine.
643 Rock Crystals in cluster, with calcite. 7½ x 4½ x 4. Same locality. Very fine.
644 Rock Crystals in cluster. 7 x 5 x 2. Same locality. Fine.
645 Rock Crystals in cluster. 7 x 6 x 3½. Virginia City, Nev.
646 Rock Crystals in cluster. 5 x 4½ x 3. Same locality. 3 spcs.
647 Rock Crystals in cluster. 4 x 3½. Same locality. 5 spcs.
648 Rock Crystals in cluster. 5 x 4 x 3½. Same locality. 2 spcs.
649 Rock Crystals in cluster. 4x3½x3. Same loc. Fine. 6 spcs.
650 Rock Crystals. 2½ x 2 x 1. Same locality. 8 spcs.
651 Rock Crystals. 5 x 4 x 3. Same locality. Fine.
652 Rock Crystals, surrounded by calcite crystals. 1½ x 1⅞ x 1½. Same locality. Fine. 2 spcs.
653 Rock Crystals in cluster, coated with iron. 7 x 6 x 3. Gold Hill, Nev. Very fine. 2 spcs.
654 Rock Crystals in cluster. 4½ x 3½ x 2. Same locality. 2 spcs.
655 Rock Crystals in cluster. 4 x 3 x 2. Same locality. 4 spcs.
656 Rock Crystals in cluster with pyrite. 9 x 7½ x 3. Nevada City, Cal. Very fine specimen suitable for a museum.
657 Rock Crystals in cluster. 7½ x 6 x 3. Eureka, Nev.
658 Rock Crystals. 4½ x 2½ x 2. Humboldt, Nev. 2 spcs.
659 Rock Crystal with enclosure. 7½ x 2½ x 2. Japan. Very fine.
660 Rock Crystal. 4 x 2½ x 2. Japan. Very fine.
661 Rock Crystal. 5½x4x2½. Lander Co. and Austin, Nev. 2 spcs.
662 Rock Crystals containing 3 bubbles of water. 4½ x 1½ x 1. Near Silver City, Nev. Very rare and fine.
663 Rock Crystals. 6 x 3 x 2. Eureka, Nev. 5 spcs.
664 Rock Crystals in cluster with orthoclase crystals. 3 x 2 x 1½. Very fine, Silver City, Nev.
665 Rock Crystals in cluster. 5 x 3 x 2. Tuscarora, Nev. 5 spcs.
666 Rock Crystals with cluster at base. 9 x 5 x 3. Near Opir. Placer Co., Cal.

667 Rock Crystals in cluster. 7 x 7 x 3. Same locality. Very fine. Suitable for a museum.
668 Rock Crystal cut into perfect ball. Dia. 1⅞ in. Japan. Very fine.
669 Rock Crystals cut into perfect balls. Dia. ½ in. Japan. Very fine. 13 spcs.
670 Rock Crystals in cluster. 5¼ x 4½ x 2. Oregon. F. 3 spcs.
671 Rock Crystals in cluster. 2½ x 2 x 2. Ophir, Placer Co., Cal. 5 spcs.
672 Rock Crystals doubly terminated. 1¼ x ¾. Herkimer Co., N. Y. 4 spcs.
673 Rock Crystals with calcite. 4½ x 3½ x 2. Lander Co., Nev.
674 Rock Crystal doubly terminated. 4 x 2 x 1½. Garlan Co., Ark.
675 Rock Crystals in cluster. 8 x 6 x 2½. Calaveras Co., Cal.
676 Rock Crystal, with enclosure, polished surfaces. 3½ x 3 x 2½. Placer Co., Cal., and Siberia. Very fine. 2 spcs.
677 Rock Crystal cluster, with azurite. 5 x 2¼ x 1½. B. O'Neill Mine, Nev. Very fine.
678 Rock Crystal cluster with azurite and malachite. 3 x 2½ x 1½. Antelope Creek, Oregon. Very fine. 2 spcs.
679 Amethyst, purple-colored crystals. 8 x 3 x 2½. Lake Superior. Very fine.
680 Amethyst. 5½ x 4 x 1½. McCracken Mine, Arizona. Very fine. 3 spcs.
681 Amethyst. 6 x 5 x 1. Same mine. 4 spcs.
682 Amethyst. Geode. 4½ x 4. Same mine. 5 spcs.
683 Amethyst. 4½ x 4 x 2. Same mine. 4 spcs.
684 Amethyst. 6½ x 4 x 2. Same mine. 3 spcs.
685 Amethyst. 5 x 1 x 2½. Same mine. 3 spcs.
686 Amethyst. Geode. 6½ x 4½ x 2½. Same mine. 4 spcs.
687 Amethyst, with crystals of gypsum. 9 x 5½ x 2. Same mine. Fine.
688 Amethyst. Geode. 7 x 5 x 5. Same mine. 4 spcs.
689 Amethyst. Highly colored crystals. 13 x 9½ x 3. Same mine. Beautiful.
690 Amethyst, with calcite crystals. 13 x 9 x 5. Same mine.
691 Amethyst. 8½ x 6½ x 3. Same mine.
692 Amethyst. Geode. 7½ x 5½ x 5. Same mine. Very fine.
693 Amethyst, with calcite crystals. 9 x 6 x 1½.
694 Amethyst. 5 x 4 x 2. Same mine.
695 Amethyst. 3½ x 3½ x 2. Virginia City, Nev. Very fine color. 2 spcs.

696 Amethyst. Geode. 4 x 3½ x 3½. Same. Very fine.
697 Amethyst. 6 x 3 x 1½. Same locality, 5 spcs.
698 Amethyst. 3 x 2 x 2. Siberia. Very fine. 2 spcs.
699 Rose Quartz. 3¾ x 2 x 2. Dakota. Very deep color.
700 Smoky Quartz. Crystal. Polished artificially. 10 x 4 x 3½. Very fine, slightly injured on edges. Japan.
701 Smoky. 4 x 4 x 3. El Dorado Co., Cal. Very fine.
702 Smoky. Doubly terminated. 4 x 2 x 1½. Same. 4 spcs.
703 Smoky. 9 x 6 x 5. El Dorado Co., Cal. Very fine.
704 Smoky. 7 x 4½ x 3½. Same locality. Very fine.
705 Smoky. 14 x 6 x 5. Same locality. Very fine.
706 Smoky. Doubly terminated. 6 x 2½ x 2. Same. V. fine.
707 Smoky. 4½ x 3½, 2½ x 2 x 1½. Same locality. V. fine. 3 spcs.
708 Smoky on hematite. 3 x 1½. Lake Superior and Arkansas. Very fine. 5 spcs.
709 Smoky. 4¾ x 1½ x 1½. Japan. 2 spcs.
710 Quartz crystals containing rutile. 2¼ x 1⅞ x 1¼. Very fine. Very rare. Japan.
711 Same. 2½ x 1¼ x 1. Very fine and very rare. Japan. 2 spcs.
712 Same. 2¼ x 1¼ x 1. Very fine. Humboldt, Nev.
713 Quartz crystals containing chlorite. 2¼ x 1½ x 1½. Rare and very fine. Japan. 2 spcs.
714 Quartz crystals, doubly terminated. 4 x 2½ x 1½. El Dorado Co., Cal. Very fine.
715 Quartz crystals with chlorite. 2 x 1 x 1. Placer Co., Cal. V. f.
716 Quartz containing clusters of chlorite One surface polished artificially. 3¾ x 2¾ x 1½. Placer Co., Cal. Very fine.
717 Quartz containing clusters and needles of chlorite. 3½ x 2½ x 1½. Surface polished artificially. Very fine and beautiful. Placer Co., Cal.
718 Quartz crystals containing chlorite. 1 x 1. 2 spcs.
719 Quartz containing chlorite. 4½ x 3¾ x 2. El D. Co. V. f. 2 spcs.
720 Chalcedony. 2¾ x 1½ x 1¼. Oregon. 3 spcs.
721 Chalcedony. Geode. 4 x 3 x 1½. Antelope Creek, Or. 2 spcs.
722 Chalcedony. 5 x 4 x 2. Same locality. 2 spcs.
723 Chalcedony. 7½ x 5 x 1. Same. Very fine. 2 spcs.
723*a* Chalcedony. Botryoidal. Two surfaces polished. 6x3x2½. Very fine.
724 Chalcedony. Crystal in a cavity. 3½ x 3 x 2. Esmeraldo Co., Nev. Rare and very fine.
725 Chalcedony. 4 x 3 x 1½. Betty O'Neill Mine. 3 spcs.
726 Chalcedony, backed. 6 x 3 x 3. Very fine. Japan.

727 Chalcedony, pseudomorph. 4½x3¼x½. Gold Hill, Nev. 2 spcs.
728 Chalcedony in quartz. Surface polished artificially. 4½ x 2½ x 2½. Very fine. Colorado. 2 spcs.
729 Chalcedony. 5 x 3½ x 1. Antelope Creek, Or. V. f. 3 spcs.
729*a* Chalcedony. Stalactitic. 5 x 5½ x 4. Calaveras Co., Cal. Very fine. Suitable for museum.
730 Chalcedony. 11 x 8½ x 1½. Very fine. Colorado.
730*a* Chalcedony. Geode, elongated. 2¾ x 1½ x 1. Tampa Bay, Florida. 2 spcs.
731 Aventurine. 2½ x 1½ x 1⅛. Very brilliant, beautiful and richly colored. Venice, Italy.
732 Agate. Banded. 6 x 5 x 2½. This and following specimens have one polished surface. Brazil.
733 Agate. Elliptic bands surrounding quartz crystals. 6 x 3½ x 2½. Very fine. Brazil.
734 Agate. Blue bands. 5 x 3 x 2½. Brazil.
735 Agate, with quartz crystals. 5½ x 5 x 3. Very fine. Suitable for a museum. Brazil.
736 Agate. 4½ x 3 x 3. Brazil.
737 Agate. 4½ x 3 x 2. 4 x 2. Very fine. Brazil. 2 spcs.
738 Agate. 3½ x 2½ x 2. Very fine. Brazil.
738*a* Agate. 4 x 2 x 1¾. 3 x 3½ x 1. Very fine. Brazil. 2 spcs.
739 Agate. 3½ x 2½ x 2¼. Very fine. Brazil.
740 Agate. 3½ x 3 x 1½. 3 x 2. Very fine. Brazil. 2 spcs.
741 Agate. 4¾ x 4½ x 2½. Very fine. Brazil.
742 Agate. 4½ x 2½ x 1½. 4 x 2¾ x 2½. Fine. Brazil. 2 spcs.
742*a* Agate. 5 x 3½ x 2. Very fine. Brazil.
742*b* Agate. 7½x4½x3½. Very fine. Suitable for museum. Brazil.
743 Agate. Red. 3½ x 2 x 1¾. 3½ x 1¾. Very fine. Brazil. 2 spcs.
744 Agate. 3½ x 2½. 3½ x 2. Very fine. Brazil. 2 spcs.
745 Agate. 4 x 3 x 2½. 4 x 3. Very fine. Brazil. 2 spcs.
746 Agate, with jasper. 4 x 3½ x 1½. Very fine. Brazil.
747 Agate. 4½ x 2¾ x 1½. 3 x 1½. Very fine. Brazil. 2 spcs.
748 Agate. 2½ x 2 x 1½. Brazil. 2 spcs.
749 Agate. 4 x 2½. 3½ x 2. Very fine. Brazil. 2 spcs.
750 Agate. Bull's eye. 3¼ x 2¼ x 2⅜. Very fine. Brazil. 2 spcs.
751 Agate. Fortification. 3½ x 3 x 2. Rare. Very fine. McCracken Mine, Arizona.
752 Agate. Ball, polished. 2½ inches diameter. Japan.
753 Agate. 2 x 1½. 2 x 1¼. Brazil. 3 spcs.
754 Moss-agate. 3 x 2½ x 1½. Nevada City, Cal. 2 spcs.
755 Moss-agate. 3¾ x 2 x 1½. Nevada City, Cal. 3 spcs.

756 Moss-agate. 2¼ x 1¼ x 1. Omaha, Neb. 3 spcs.
757 Moss-agate. 2½ x 1¼ x 1. Japan. 3 spcs.
758 Onyx. 2⅜ x 2 x 2. Polished. Very beau. Solano Co., Cal.
759 Jasper. 4¼ x 3¼ x 2½. One polished surface. San Bernardino Co., Cal. 2 spcs.
760 Jasper. 3 x 3½ x 3. Same locality.
761 Jasper. 4½ x 4½ x 3. 4½ x 4 x 2. Very fine. Same. 2 spcs.
762 Jasper. 3 x 2½ x 1¼. 2½ x 2. Same. 2 spcs.
763 Jasper. One polished surface. 5½ x 2½ x 1. Fine. Rich. crimson color. Same.
764 Jasper. 3 x 3 x 2. Lake Co., California. 2 spcs.
765 Jasper. Geode. 6¾ x 3 x 2½. Very fine. Japan.
766 Jasper. 6 x 3 x 2. 2 spcs.
767 Jasper. Ball cut in two. Polished surface. Dia. 4 in. Fine.
768 Flint. 3½ x 3½ x 1½.
769 Basanite. 3 x 2¼ x 1½. Deep-black color. Very fine. Trinity Co., Cal.
770 Geode containing quartz crystals. 7 x 5 x 4. Very fine. Hancock Co., Ill.
771 Geode containing calcite. 7½ x 5 x 4. Very fine. Same loc.
772 Same. 5 x 4 x 4. Very fine. Same locality.
773 Geode. 5½ x 5 x 4. Keokuk, Iowa.
774 Geode. 5 x 4½ x 2½. Oregon.
775 Geode. 3½ x 2½. Nevada.
777 Drusy quartz. 5 x 5 x 2. Plaeer Co., California.
778 Drusy. 4½ x 4 x 2. Fine speeimen. Same.
779 Drusy. 6½ x 4½ x 2. Same loeality.
780 Drusy. 4 x 3½ x 2½. Same locality. 4 spcs.
781 Drusy. 4½ x 3½ x 2½. Gold Hill, Nev., and Arizona. 2 spcs.
782 Drusy. 6 x 4 x 2. Oregon. 3 spcs.
783 Drusy. 7 x 4 x 3. Arizona. Fine.
784 Drusy. 7 x 5 x 3. Arizona. Fine.
785 Petrified Wood. 12 x 4½ x 1. Nevada Co., California.
786 Petrified Wood opalized. 5 x 3½ x 2. Same locality. 3 spcs.
787 Same. 4 x 3½ x 2. Same locality. 4 spcs.
788 Same. 4 x 3½ x 2. Same locality. 3 spcs.
789 Same. 4 x 3 x 2. Same locality. 2 spcs.
790 Same. 4 x 3 x 2. Same loeality. 2 spcs.
791 Same. 6 x 2½ x 2½. Same locality. 5 spcs.
792 Same. 6 x 5 x 2½. Very fine. Arizona. 2 spcs.
793 Same. 4¾ x 3½ x 3. Very fine. Nevada Co., California.
794 Same. 5 x 4½ x 2½. Very fine. Same. 2 spcs.

795 Petrified Wood. 5 x 3 x 2. Nevada City, California. 3 spcs.
796 Same. 3 x 3 x 2. Same. 2 spcs.
797 Same. 6½ x 4 x 2. Calaveras Co., California.
798 Same. 3½ x 4 x 1½. Napa Co., California.
799 Petrified Wood, with amethyst crystals. 8 x 4 x 2½. Apache Co., Arizona.
800 Same. 7 x 3 x 2. Same locality.
801 Petrified Wood polished on one surface. 3¾ x 3½ x ½. Very fine. Same locality.
802 Same. 8 x 6 x 4. Arizona.
803 Petrified Wood, opalized, with leaf impression. 4 x 2½ x 1. Very fine. Oregon.
804 Petrified wood. 3 x 2½ x 2½. Oregon. 2 spcs.
805 Petrified wood, one surface polished. V. fine. 5½ x 3½ x 1.
806 Petrified wood. 7 x 4 x 2½. 9 spcs.
807 Petrified wood with chalcedony. Section of a tree. 9½ x 9 x 4½. Apache Co. Rare and beautiful specimen.
808 Petrified wood. Section of a tree showing knot holes. 4 x 5½ x 5. Apache Co., Arizona.
809 Itacolumite or flexible sandstone. 9½ x 8 x ¾. Fastened to a board. Maraposa Co., Cal.
810 Same. 5 x 2 x ½. Maraposa Co.
811 Diatomaceous earth. 12 x 8½ x 6. Very fine. Nevada.
812 Same. 3½ x 2 x 2. California. 2 spcs.
813 Sandstone with dentritic manganese talcose. 7 x 6 x 2. Nev. Beautiful specimen.
814 Same. 6 x 4 x 2. Very fine. Nev. 2 spcs.
815 Same. 3½ x 3 x 1¾. Very fine. Wyoming. 3 spcs.
816 Same. 4 x 3 x 2. Very beautiful. Leadville, Col.
817 Same. 8 x 6 x 1½. Very fine. Cal.
818 Same, not talcose. 6 x 4½ x 2½. Very fine. Cal.
819 Same. 5 x 3½ x 2. California. 5 spcs.
820 Pebbles. Two bottles. Cal. and Arizona.

OPALS.

Dana No. 232.

821 Opal. Fire. In matrix. 3 x 1½ x 1, 1 x ¾. Very fine. Honduras, Central America.
822 Opal. Red and fire. In matrix. 1½ x 1¼. Queretaro, Mexico. 3 spcs.
823 Same. 1 x 1. Very fine. Queretaro, Mexico. 4 spcs.

824 Same. 3½ x 3 x 1½. Very fine. Queretaro.
825 Fire opal in matrix. 1¼ x 1.
826 Semi-Opal. 1½ x 1½. 1¼ x 1. 1 x 1. Calaveras Co., Cal. Rare. 3 spcs.
827 Semi-Opal. Small. Colorado River. 18 spcs.

RHODONITE.

Dana No. 241.

828 Rhodonite, var. fowlerite, crystals. 4 x 4 x 2. Fine. Franklin, N. J.
829 Rhodonite, var. fowlerite. 3½ x 2 x 1. Urals, Russia.

ANTHOPHYLLITE.

Dana No. 246.

830 Anthophyllite. 3 x 2. Pa.

AMPHIBOLE.

Dana No. 247.

831 Tremolite. 3 x 2 x 1½. N. Y.
832 Actinolite. 2¾ x 2¼ x 1½. Astic Station, Sonoma Co., California. 3 spcs.
833 Asbestus. 5½ x 2 x 1¾. Tuolumne Co., Cal.
834 Asbestus. 9½ x 2½. Placer Co., Cal. Very fine. 2 spcs.
835 Asbestus, fibrous. 3 x 1½, also three boxes and 1 bottle. Various localities. 5 spcs.
836 Asbestus massive. 14½ x 2½ x 1½. San Bernardino County, California. 2 spcs.

CROCIDOLITE.

Dana No. 249.

837 Crocidolite. 2¾ x 1¼ x ¼. 1½ x 1. 1¾ x 1½. Africa. 1 surface of each polished. Very fine. 3 spcs.

BERYL.

Dana No. 254.

838 Emerald in matrix. 3 x 2 x 1½. Size of emerald $\frac{5}{16}$ x $\frac{5}{16}$. Grenada, Central America. V. f. and deep color. See pl. IX.
839 Emerald in matrix. 2¾ x 1¾ x 1. Size of emerald 1 x $\frac{11}{32}$. Tyrol, Austria. Very fine.

FORSTERITE.

Dana No. 257.

840 Boltonite. 2½ x 1¾ x 1½. Bolton, Mass.

CHRYSOLITE.

Dana No. 259.

841 Chrysolite in basalt. 3 x 2½ x 1. Sandwich Is.
842 Chrysolite in quartz. 2 x 1¾ x ½. Cornwall, Eng.

GARNET.

Dana No. 269.

843 Garnets (13) in schist. 13 x 8 x 2. Steeka R. Alaska. Garnets dodecahedral and truncated, clear color. Very fine.
844 Garnets one in schist. 3 x 2½ x 1. Same locality. Very fine.
845 Garnets in schist. 6 x 5 x 1. Same locality. 4 spcs.
846 Garnets in schist. 4 x 3 x 1½. 2½ x 2. N. J. and Dak. 2 spcs.
847 Garnets in schist. 3 x 2 x 2. N. H. and Cal. 3 spcs.
848 Garnets. Mex. Also small garnets suitable for cutting. So. Africa. 4 bottles.

EPIDOTE.

Dana No. 276.

849 Epidote with calcite and garnets. 4 x 2½ x 1½. N. H.
850 Epidote in quartz. 3 x 2 x 1. Conn. Very fine.
851 Epidote with malachite. 4½ x 3 x 2½. Cal. Very fine.
852 Epidote. 2½ x 1. Tyrol, Switzerland. Very fine.

PHLOGOPITE.

Dana No. 288.

853 Phlogopite. 10 x 7¼ x ⅛.
854 Phlogopite. 7 x 4½. Various localities. 6 spcs.

BIOTITE.

Dana No. 289.

855 Biotite. 3 x 2. Canada.

ASTROPHYLLITE.

Dana No. 292.

856 Astrophyllite. 4 x 3 x 1½. Almada Co., Cal.

MUSCOVITE.

Dana No. 293.

857 Muscovite containing tourmaline. 7 x 7½ x ¾. Dakota.
858 Muscovite. 9 x 7½ x ½. Arizona. 2 spcs.
859 Muscovite containing magnetite. 8 x 6. Very fine. North Carolina. 2 spcs.
860 Mica slate. 4 x 1½. New York. 2 spcs.

LABRADORITE.

Dana No. 311.

861 Labradorite. One surface polished. 3½ x 1¾ x ¾. Beautiful iridescence.

OLIGOCLASE.

Dana No. 314.

862 Oligoclase. 4 x 3 x 1. Iridescent. Very fine. Del Co., Pa.

ALBITE.

Dana No. 315.

863 Albite, with quartz and mica. 4 x 3 x 2½.

ORTHOCLASE.

Dana No. 316.

864 Orthoclase. Crystallized, with large, lustrous crystals of smoky quartz. 16 x 18 x 9. Magnificent specimen. Japan.
864*a* Orthoclase. 4 x 3 x 2. Japan and New York. 2 spcs.
865 Sunstone. 4 x 2 x 1¼. Very fine. Delaware Co., Pa.
866 Amazon Stone. 5 x 3½ x 2. Section of compound crystal. Fine color. Pike's Peak, Col.
867 Amazon Stone. Crystals. 3 x 2 x 2. 3 x 2½ x 2. Fine color. Same locality.
868 Granite. 3 x 3 x 1. Various localities. 4 spcs.
869 Porphyry. 5 x 5 x 4. Missouri.
870 Porphyry. 4¼ x 3½ x 1. Nevada.
871 Orbicular diorite. 2½ x 2 x 1. Showing concretions. Corsicar.
872 Slate, white and brown. 6 x 4½ x ½. Utah. 2 spcs.
873 Obsidian. 3½ x 2 x 1½. Clear Lake, Cal. 2 spcs.
874 Obsidian. 4 x 3 x 2½. Clear Lake, Cal. 3 spcs.
875 Obsidian. 4 x 3 x 2. Nevada. 4 spcs.
876 Lava. 5 x 4 x 3. Sandwich Islands. 2 spcs.

TOURMALINE.

Dana No. 320.

877 Tourmaline, black. 2 x 2 x 1. California.

TOPAZ.

Dana No. 325.

878 Topaz, wine colored. Size, 17 x 9 x 7½ and 9 small spcs. Brazil.

TITANITE.

Dana No. 329.

879 Titanite. Tabular crystals. 2½ x 2 x 1¼. 1 x 1 x ½. Very fine. Canada. 2 spcs.

STAUROLITE.

Dana No. 333.

880 Staurolite. Single and twin crystals. 1 x 1 x ½. Very fine. North Carolina. 14 spcs.

PECTOLITE.

Dana No. 339.

881 Pectolite. 3 x 2½ x ¾. Bergen Hill, N. J.

CHRYSOCOLLA.

Dana No. 346.

882 Chrysocolla. 8 x 3½ x 2. Very fine. Deep rich color. San Bernardino Co., Cal.
883 Chrysocolla. 7½ x 3 x 2½. Gila Co., Arizona.
884 Chrysocolla in cavities. 4 x 3½ x 2¼. Very fine. Same.
885 Same. 5½ x 3½ x 2½. Very fine. Same locality. 2 spcs.
886 Chrysocolla, massive. 3 x 2½ x 1½. Mojave Co., Ara. 6 spcs.
887 Chrysocolla. 4 x 3 x 2. Arizona. 2 spcs.

CALAMINE.

Dana No. 361.

888 Calamine with cacholong. 4½ x 3½ x 2½, and fragments. V. fine. Jasper Co., Missouri.
889 Calamine in brown clusters. 4¼ x 3 x 2. Green Co., Mo.

THOMSONITE.

Dana No. 377.

890 Thomsonite in basalt. 3 x 2½ x 1¼. Ireland.

ANALCITE.

Dana No. 383.

891 Analcite. Large crystals combined. 2 x 1¾ x 1. Fine. Nova Scotia.

892 Analcite. 5 x 3 x 2. Bergen Hill, N. J.

PHILLIPSITE.

Dana No. 389.

893 Phillipsite. 3½ x 2¼ x 1½. Ireland.

TALC.

Dana No. 400.

894 Talc. Foliated, and steatite. 3½ x 2 x 1. Cal. 2 spcs.

SERPENTINE.

Dana No. 411.

895 Serpentine. 6 x 2½ x 1¾. 5 x 3 x 1½. Mo., and Cal. 2 spcs.

896 Serpentine. 4 x 3½ x 1½. Cal. 3 spcs.

GARNIERITE.

Dana No. 416*a*.

897 Garnierite. 4¾ x 2 x 2. 2½ x 2 x 1½. Nev., and New Caldonia. 2 spcs.

KAOLINITE.

Dana No. 419.

898 Kaolinite. 3½ x 2¾ x 2½. 2½ x 2 x 1½. Nev. 2 spcs.

899 Kaolinite. 3 x 2 x 1½, and fragments. Nev.

PINITE.

Dana No. 422.

900 Agalmatolite. Sculptured with a scene of house and trees. In frame and stand. 10½ x 9½. Japan. Supposed to be over 1000 years old. Very fine specimen.

901 Agalmatolite. Sculptured. The Great Dragon of the water-spout discharging water into the sea beneath, on which are two fishes. The head of the dragon and the sea are colored blue. With stand. 10½x7¾. Japan. Also supposed be to over 1000 years old.

MASONITE.

Dana No. 458.

902 Masonite. 3½ x 2 x 1¼. Rhode Island. 2 spcs.

APATITE.

Dana No. 492.

903 Apatite. Crystal in calcite. 4¼ x 1½ x 1¼. Canada.
903*a* Apatite. Crystals. 2¼ x 1⅞ x 1½ x 2½ x 1¼. Me. 2 spcs.

PYROMORPHITE.

Dana No. 493.

904 Pyromorphite crystals. 2¼ x 2 x 1¼. V. f. Phoenixville, Pa.

CHALCOPHYLLITE.

Dana No. 548.

905 Chalcophyllite with malachite in brilliant, radiating masses. 3 x 2½ x 1½, 3 x 2½ x 1. Garonne. 2 spcs.

TURQOISE.

Dana No. 563.

906 Turqoise in matrix. 1½ x 1¼ x ⅝, and smaller. Very fine. Es. Co., Cal. 3 spcs.
907 Same. 1½ x 1¼ x 1. V. f. Esmeralda Co., Cal. 3 spcs.

BORAX.

Dana No. 599.

908 Borax. Crystal doubly terminated. 2¼ x 1½ x 1¼. Very fine. Borax Lake, Cal.
909 Borax. Crystals. 1⅞ x 1. Fine. Same. 13 spcs.
910 Borax. Crystals, manufactured. 3 x 3 x 2⅝. Cal. 2 spcs.
911 Same. 3 x 2 x 2, (4) and smaller.
912 Same. Many fragments.

ULEXITE.

Dana No. 602.

913 Ulexite. Large circular mass. 6½ x 4½ x 3. V. f. Es. Co. Cal.
914 Ulexite. 5 x 3 x 2. Very fine. Same.
915 Ulexite. 4 x 2 x 2. Very fine. Same.
916 Ulexite. 3 x 2½ x ½. Same. 3 spcs.

HÜBNERITE.

Dana No. 611.

917 Hubnerite. Thick, broad blades in quartz. 3 x 2 x 1½. Very fine. Rare. Nye Co., Nev.

WULFENITE.

918 Wulfenite. Red, tabular crystals on gangue. 5 x 5 x 3. V. fine, beautiful specimen. Rare. Yuma Co., Arizona.

919 Wulfenite. Red, tabular crystals attached by edges to gangue. 1⅜ x 1 x ½. Very fine and beautiful. Yuma Co., Ar. See plate IX.

920 Wulfenite. Numerous crystals in bottle. Very fine. Same.

921 Wulfenite. Crystals. 4½ x 2¾ x 1½. Very fine. Same.

922 Same. 2¾ x 2 x 1½. Very fine. Same. 2 spcs.

923 Same. Yellow. 3 x 2¼ x 1¾. Utah. See plate X.

924 Wulfenite with galenite. 4½ x 3 x 1½. Utah.

925 Wulfenite. Crystals. 3½ x 3¼ x 2½. Utah.

926 Wulfenite. Yellow crystals. 2½ x 2 x 1½. Very fine. Utah.

927 Wulfenite crystals. 1¼ x 1¼. Fine lot. Utah. 10 spcs.

928 Wulfenite crystals. 3 x 1½ x 1¼. Utah. See plate IX.

929 Wulfenite crystals. 2 x 1¾ x ¾. Mexico.

930 Wulfenite crystals with galenite. 5½ x 4 x 3½. S. B. Co., Cal.

931 Same. 3 x 2¾ x 2½. San Bernardino Co., Cal.

932 Wulfenite. Small red crystals. 2¼ x 2¼ x 1½. Same.

933 Wulfenite. 2½ x 2½ x 1½. Inyo Co., Cal.

BARITE.

Dana No. 630.

934 Barite. Crystals over outer surfaces of geode. 7 x 6 x 4. Very fine. Missouri.

935 Barite. Crystalline. 2¾ x 2 x ¼.

936 Barite. Crystals. 3½ x 2 x 2. Cal.

937 Barite. 3 x 2½ x 2.

ANGLESITE.

Dana No. 633.

938 Anglesite. Massive with galenite. 2½ x 2 x 2. Very rich. Inyo Co., Cal. 3 spcs.

GYPSUM.

Dana No. 654.

939 Gypsum. Crystals lining geode. 6½ x 5 x 5. V. f. S. B. Co. Cal.
940 Gypsum. Crystals curved. 7¼ x 5 x 2. Very fine.
941 Gypsum. Crystals. 4 x 2½ x 1½. Very fine. Arizona.
942 Gypsum. Massive. 2½ x 2 x 2. Cal. 2 spcs.
943 Gypsum. Crystals in quartz. 10 x 7½ x 1½. Ar.
944 Same. 7 x 4 x 2½. Arizona.
945 Same. 6 x 5 x 2½. Arizona.
946 Same. 7 x 4¼ x 2½. Arizona.
947 Same. 5 x 3½ x 1¼. Arizona.
948 Same. 5½ x 4½ x 1. Arizona. 3 spcs.
948*a* Gypsum. Numerous colums united. 9 x 4 x 3½. Very fine. Grand Rapids, Mich.
948*b* Gypsum. Water worn. 9½ x 4 x 2½. Same locality.
948*c* Gypsum. Water worn. 8½ x 5 x 3. Same locality.
948*d* Gypsum. Water worn. 8 x 4 x 3. Same locality.
948*e* Gypsum. With crystals of selenite. 4½ x 3 x 2½. Very fine. Grand Rapids, Mich. 2 spcs.
949 Satin spar, pink. 4¾ x 3½ x 3½. Very fine. Col.
950 Same. 4¾ x 3¾ x 3. Very fine. Colorado.
951 Satin spar. 4¼ x 2¼ x 1½. Cal. and Arizona. 3 spcs.
952 Selenite, clear. 5¾ x 3¾ x ½. California.
953 Selenite. 5¼ x 3½. Nevada. 3 spcs.
954 Selenite. 4 x 2 x 1. California. 3 spcs.

CALCITE.

Dana No. 715.

955 Calcite. Large crystals with sphalerite crystals. 5 x 5 x 4¾. Very fine. St. Francis, Mo.
956 Calcite. Crystals. 8 x 8 x 3. Very fine. Gold Hill, Nev.
957 Calcite. Crystals, tabular. 7 x 7 x 1½. V. fine. Same.
958 Calcite. Crystals, dog-tooth, in cavity. 7¼ x 6 x 3. Very fine. Jefferson Co., Col.
959 Calcite. Crystals containing native copper. 4 x 4 x 2½. V. fine. Lake Superior, Mich.
960 Calcite. Long, needle-like crystals. 8 x 4½ x 3½. Very fine. Idahó.
961 Calcite. Same. 5½ x 4 x 2½. Very fine. Idaho.

962 Calcite. Crystals with malachite and quartz crystals. 3¾ x 2½ x 1¾. 3¼ x 3 x 2½. Nevada and Cal. 2 spcs.
963 Calcite. Crystals. 3¼ x 3 x 2¼. Nevada.
964 Same. 3 x 2½ x 2. Nevada. 2 spcs.
964*a* Same. 3 x 2 x 1½. Nevada. 3 spcs.
965 Same. Dog-tooth. 4 x 2½ x 1½. Nevada.
965*a* Calcite, pink. 7 x 6 x 4½. Missouri.
965*b* Calcite. Dog-tooth. 3½ x 2¼ x 1¾. Nevada.
966 Calcite, pseudomorph after fluorite. 4 x 3 x 1½. Same.
967 Calcite. Crystals. 3 x 2½ x 1½. Various localities. 3 spcs.
968 Calcite and fluorite. 3 x 3 x 2. Mexico. 2 spcs.
969 Calcite crystals. 3 x 2½ x 2½. Wisconsin. 2 spcs.
970 Same with galenite. 3½ x 2½ x 2. N. Y., Mo., Saxony. 4 spcs.
971 Calcite. Crystalline. 4 x 3 x 2. Cal. 2 spcs.
972 Iceland spar. 4½ x 4 x ½. 1½ x 1½ x 1½. Cal. and Col. 3 spcs.
973 Coral limestone. 3 surfaces polished. 5¼ x 3½ x 1¾. V. f. Iowa.
974 Same. Two surfaces polished. 5½ x 4 x 2½. V. fine. Same.
975 Same. Six surfaces polished. 3¾ x 2¾ x 2½. Same.
976 Same. One surface polished. 4 x 4 x 1½. Same.
977 Marble. 4 x 3 x 1. Cut and polished to uniform size and from various localities. Very beautiful collection. 13 spcs.
978 Marble. Ball. 3½ in. diameter. Japan.
979 Travertine. One surface polished. 4 x 3½ x 2½. Cal.
980 Travertine. 5 x 2¼ x 3½. Various localities. 3 spcs.
981 Stalactite. Four columns united, white. 21 x 8½ x 5. Very fine. Tuolomne Co., Cal.
982 Stalactite. 9 x 2. New Zealand.
983 Stalactite. 3¾ x 1¼. California. 2 spcs.
984 Stalactite. 3½ x ½. California. 4 spcs.
985 Stalactite. 3½ x 2 x 1½. California. 2 spcs.
986 Stalagmite. One surface polished. 7 x 6 x 1. Very fine. Luray, Virginia.
987 Pisolite. 6½ x 5 x 4, and 1 smaller. Very fine. Nev. 2 spcs.
988 Limestone, crystalline. 5 x 4 x 1½. Cal. 2 spcs.
989 Limestone, stratified. 4½ x 2¾ x 2½. Cal. 3 spcs.
990 Calcareous tufa. 7½ x 4½ x 2. Cal.

DOLOMITE.

Dana No. 716.

991 Dolomite. Crystals with calcite. 2½ x 2 x 1½. St. Louis, Mo.

MAGNESITE.

Dana No. 718.

992 Magnesite. Massive. 6 x 4 x 2¼. Very fine. Cal.
993 Magnesite. Crystalline. 4 x 3½ x 1½. Nev. 4 spcs.
994 Magnesite. 2½ x 2 x 2. Cal. and Nev. 3 spcs.

RHODOCROSITE.

Dana No. 722.

995 Rhodocrosite. Pink ball surrounded and penetrated by small quartz crystals, ½ x 1⅜. Size of specimen 6 x 2 x 2½. Very fine. Rare. Mexico.
996 Rhodocrosite. 2¼ x 1¾ x 1. Nevada.

SMITHSONITE.

Dana No. 723.

997 Smithsonite. Thick mass lining cavity in galenite. 3 x 2½ x 2½, 2½ x 1½ x 1½. Very fine. Silver City, Col. 2 spcs.
998 Same. 3 x 1½ x 1¼, 2 x 1½. Same. 2 spcs.
999 Smithsonite. Incrustation. 3 x 1½ x ¾. England.

ARAGONITE.

Dana No. 724.

1000 Aragonite, stalactitic. 10 x 8½ x 4. Very fine. Texas.
1001 Same. 6 x 5 x 4. Very fine. Colorado.
1002 Same. 6½ x 3 x 2¼. Very fine. Virginia.
1003 Same. 5 x 4½ x 3½. Very fine. Texas.
1004 Same. 4 x 2½ x 1½. Nevada. 4 spcs.
1005 Same. 4 x 2½ x 1½. Nevada. 5 spcs.
1006 Aragonite. Massive. 5½ x 2½ x 1½. Various localities. 4 spcs.
1007 Aragonite. Crystal, brown. 1½ x 1½ x 1. El Paso, Co, Col.
1007*a* Aragonite, stalactitic. 11 x 8 x 4. Texas.

STRONTIANITE.

Dana No. 728.

1008 Strontianite. 2½ x 2 x 1½. Germany.

CERUSSITE.

Dana No. 729.

1009 Cerussite. Cluster of crystals. 1½ x 1⅝ x 15/16. Very fine, choice specimen. Very rare. Oregon.

1010 Cerussite. Crystals on both sides of galenite. 4½ x 3 x 1¼. Utah.
1011 Cerussite. Massive, with galenite. 3 x 2½ x 1¾. 2 x 1¾ x 1. Very rich. Nevada.
1012 Cerussite. Massive. 2½ x 2¼ x 2. Arizona.
1013 Cerussite with galenite. 3½ x 2¼ x 2¼. Arizona. 3 spcs.
1014 Cerussite with malachite. 3½ x 2½ x 1½. 3. S. America. Very rich. 4 spcs.
1015 Cerussite. 4¼ x 2¾ x 2. Mexico.

BARYTOCALCITE.

Dana No. 730.

1016 Barytocalcite. Crystals. 3 x 2 x 1½. Very fine. England.

MALACHITE.

Dana No. 751.

1017 Malachite. One surface polished. 6 x 3 x 3. Very fine. Bura Bura, Australia.
1018 Same. One surface polished. 6 x 3¼ x 1. V. fine. Same locality.
1019 Same. One surface polished. Botryoidal. 2½ x 1½ x 2. Same.
1020 Malachite. 5½ x 4½ x 2½. Very fine. Mojave Co., Ar.
1021 Malachite. 5 x 3 x 2. Same. 2 spcs.
1022 Malachite with galenite. 7 x 5 x 4. Same.
1023 Malachite. 6 x 3 x 2. Same. 4 spcs.
1024 Malachite. 4 x 2¾ x 1¾. Same. 4 spcs.
1025 Malachite. Needle-shaped crystals. 4 x 3 x 1½. Same. 3 spcs.
1026 Malachite. 3 x 2½ x 2. Same. 5 spcs.
1027 Malachite. 3 x 3 x 2. Same. 3 spcs.
1028 Malachite lining cavities. 4 x 3½ x 2½. Very fine. Same.
1029 Malachite. 3 x 3 x 1¾. Same locality. 4 spcs.
1030 Malachite in cavities. 5 x 3 x 2. V. f. Tombstone Ar. 3 spcs.
1031 Malachite. 7 x 4 x 2. Same locality. 2 spcs.
1032 Malachite. 3½ x 3 x 2. Mineral Hill, Ar. 4 spcs.
1033 Malachite. 4 x 3½ x 2. Gila Co., Ar. 5 spcs.
1034 Malachite with cuprite. 6 x 2½ x 1½. Globe dist., Ar. 4 spcs.
1035 Malachite. Radiating clusters on iron. 4 x 3 x 3. Very fine. Arizona. 2 spcs.
1036 Malachite. 7 x 4 x 3. Arizona. 2 spcs.
1037 Malachite. 2½ x 2 x 2. Arizona. 4 spcs.
1038 Malachite. 5 x 4½ x 3. Arizona. 5 spcs.

1039 Malachite. 3 x 2 x 1½. Arizona. 6 spcs.
1040 Malachite. 3½ x 2½ x 2. Arizona. 5 spcs.
1041 Malachite. 3½ x 2½ x 2. Arizona. 4 spcs.
1042 Malachite in cavites. 5 x 5 x 4. Very fine. Cal.
1043 Malachite. 4½ x 2½ x 2. California. 3 spcs.
1044 Malachite. 3½ x 2½ x 1½. California. 4 spcs.
1045 Malachite. 4½ x 3½ x 3. California. 3 spcs.
1046 Malachite. 4½ x 3 x 2. California. 6 spcs.
1047 Malachite. 2½ x 3 x 2. California. 6 spcs.
1048 Malachite. 5½ x 3 x 2. California. 2 spcs.
1049 Malachite. 2½ x 2 x 1½. California. 3 spcs.
1050 Malachite on dendrites. 7 x 5½ x 3. California.
1051 Malachite with bornite and chalcopyrite. 8 x 6 x 2.
1052 Malachite with quartz crystals. 9 x 4½ x 3.
1053 Malachite. 4 x 3½ x 2½. Utah and Arizona. 6 spcs.
1054 Malachite. 4 x 3½ x 3. Utah and Oregon. 6 spcs.
1055 Malachite. 5 x 3 x 3. Utah and Mexico. 10 spcs.
1056 Malachite. 4 x 3 x 2. Nevada. 5 spcs.
1057 Malachite. 3 x 2 x 2. Nevada. 5 spcs.
1058 Malachite. 4 x 3 x 2½, and smaller. Nevada. 8 spcs.
1059 Malachite. 5 x 4½ x 3, various sizes and localities. 12 spcs.
1060 Malachite. 3 x 2½ x 3. 3 spcs.

AZURITE.

Dana No. 752.

1061 Azurite. 4½ x 4¼ x 2½. Very fine. Cochise Co., Ar.
1062 Azurite. Clusters of crystals. 3 x 2¼ x 1½. V. f. Ar. 2 spcs.
1063 Azurite, with malachite. 4½ x 3 x 1½. Cal. 2 spcs.
1064 Same. 3 x 2. California. 4 spcs.
1065 Same. 5½ x 3 x 2. California. 6 spcs.
1066 Same, and galenite. 6 x 4 x 2½. Utah. 3 spcs.
1067 Same. 4 x 3 x 2½. Nev. and Arizona. 3 spcs.
1068 Azurite. 4 x 3½ x 1½. Nevada. 3 spcs.
1069 Azurite with malachite. 4½ x 4 x 1½. Nev. 2 spcs.
1070 Same. 4½ x 3 x 2. Very rich. Arizona. 2 spcs.
1071 Same. 3 x 2½ x 1½. Arizona. 4 spcs.
1072 Same. 2½ x 2½ x 1½, also a bottle. Arizona. 2 spcs.
1073 Same. 5 x 2½ x 3. Arizona. 3 spcs.
1074 Same. 4 x 4 x 1. Mexico. 3 spcs.
1075 Same. 4 x 3 x 2. California. 3 spcs.
1076 Same. 4 x 3½ x 2. Some small. Various localities. 16 spcs.

COPALITE.

Dana No. 798.

1077 Copalite. 4¾ x 4 x 3½. New Zealand.
1078 Copalite. 2½ x 2 x 2. New Zealand. 2 spcs.
1079 Copalite containing insects, polished surfaces. 4½ x 3½ x 1½. 2 x 1. Africa. Very fine. 2 spcs.
1080 Copalite containing insects. 2 x 2 x 1. Africa. 4 spcs.

COAL.

Dana No. 831.

1081 Lignite. 9 x 5¼ x 3¼. Very fine. Japan.
1082 Lignite. 1¾ x 1¾ x 1. Alaska.
1083 Bituminous. 4 x 2 x 1. Illinois.

MISCELLANEOUS.

1084 Galenite and chalcopyrite. 5 x 4 x 3. 3 x 3. Utah. 2 spcs.
1085 Galenite with native silver, and polybasite. 2½ x 2 x 1. 11 spcs.
1086 Cerargyrite, and melaconite. 2½ x 2 x 1. California, Oregon, Nevada. 4 spcs.
1087 Cassiterite crystals in quartz. 5 x 3 x 2. Cornwall, Eng.
1088 Same in small box. Same locality.
1089 Large lot. Some labelled. Various.

GEMS.

Measurements by scale of sizes.

1090 Various, cut. In bottle. Various localities.
1091 Various, cut and uncut. In bottle. Various localities.
1092 Carnelians, Onyx, Card and Cameo, cut. In bottle. 23 spcs.
1093 Tourmaline, pink. Brazil. Fine lot. 14 spcs.
1094 Ruby, Sapphire and Topaz from Burmah, Ceylon and Brazil. In 3 bottles.
1095 Glass tablets (4) of quartz crystals and one cut ornament. 5 spcs.
1096 Opals, fire, polished. Mexico. 15 spcs.
1097 Emerald. Cut. 6 x 6 x 3½.
1098 Sapphire. Cut. 2 spcs.
1099 Diamonds 2, Pyropes 3, Pearl, Beryl, cut, small. 7 spcs.
1100 Carnelian charms formerly used by high officials of Japan. 48 x 24 x 8. 8 spcs.
1101 Same. Six ornaments and five balls. 11 spcs.

1102 Amber enclosing insect, polished. 16 x 11½ x 4. V. f. Rare.
1103 Amber enclosing insect, polished. V. fine. Rare. 6 spcs.
1104 Amber enclosing insects, polished. V. fine. Rare. 7 spcs.
1105 Amber enclosing insects. Very fine. Rare. 2 spcs.
The above four lots are from the shores of the Baltic.

FOSSILS.

Measurements in inches.

1106 Plants. Leaf in sandstone. 6 x 5 x 2½. Oregon.
1107 Plants. Leaf in sandstone. 6 x 5 x 2½. Cal. 2 spcs.
1108 Plants. Leaves in red shale. 4½ x 4 x ¾. Oregon. 3 spcs.
1109 Same. 5½ x 2½ x ½. Oregon. 6 spcs.
1110 Leaves in conglomerate. 8 x 5 x 2½. Utah, Cal. 2 spcs.
1111 Impression of pine cone and calamites. 4 x 3½ x 2. California. 4 spcs.
1112 Bark of tree. 12 x 4½ x 1. Fractured. Illinois.
1113 Ferns in shale. 8 x 8 x 2.
1114 Ferns, pecopteris, etc., in shale. 10 x 6 x 1. Ill. 3 spcs.
1115 Bark of tree in shale. 5 x 3 x ½. Illinois. 3 spcs.
1116 Ferns, neuropteris, etc., in clay-stone. 5 x 2½ x 1.
1117 Same. 4½ x 1½ x 1. 4 spcs.
1118 Same. 4 x 4 x 1. 4 spcs.
1119 Brachiopoda, various genera. 4 x 4 x 2. 10 spcs.
1120 Gryphæa. 9 x 5 x 2. Very fine. California.
1121 Inoceramus, etc. California. 10 spcs.
1122 Ammonites. California. 12 spcs.
1123 Shark's teeth. 3¼ x 3¼ x ½. Charleston, S. C. 14 spcs.
1124 Teeth of fossil reptile. Oregon. 6 spcs.
1125 Fossil fish in shale. 6 x 4 x ½. V. f. Green Riv. Wy. 3 spcs.
1126 Same. 5 x 2½ x ½. Same. 3 spcs.
1127 Teeth of mastodon. 4½ x 3 x 2½. California. 2 spcs.
1128 Miscellaneous fossils, carboniferous and silurian. Various localities.

INDIAN STONE IMPLEMENTS.

1129 Axe. Perfect, and of fine form; the back slightly grooved. Mineral Park, Ara. 7 x 4¼ x 2.

1130 Celt. Polished on cutting edge. 5½ x 2⅞ x 1½. U. S. Columbia, 150 miles south of Panama, 150 miles up Darien River. Given D. H. Crossnan by Chief of Chukunaki Indians.

1131 Ball. Perfectly round, said to have been used in games; also as a slung-shot. Dia., 2⅜. Sinaloa, Mex.

1132 Paint Mortar of baked clay. 2¾ x 2⅜ x 2. Very fine. Very rare. Sinaloa, Mex.

1133 Paint Mortar and Pestle. Near Sharpsville, Mercer Co., Pa.

1134 Slung-shot, or Sinker. Oval stone, with deep groove around edge. Limestone. Found 30 ft. below surface, in a gravel bed. Camptonville, Yuba Co., Cal. 3 x 3 x 2¼.

1135 Plumb-bob. Same shape as those used by masons; pierced and grooved at end. Serpentine. Perfect and very rare. Found in Alameda Co., Cal., 40 ft. under the surface. 3½ x 1½ x 1½.

1136 Cast of a stone implement found in Colorado Desert, So. Cal. Broken, but curious.

1137 Cone. Flat, round base, sloping evenly to point. Polished and perfect. Extremely rare. Hematite. 1⅝ x 1⅛.

We have for sale, also, a very fine collection of flint and jasper spear and arrow heads, many of extraordinary large size and rare form, axes, large stone mortar, pestles, etc., and will be happy to send descriptions and prices to any collector who may desire to purchase.

We are in possession of a very large stock of fine and rare ancient Greek and Roman, foreign and American coins and medals, for sale at marked prices.

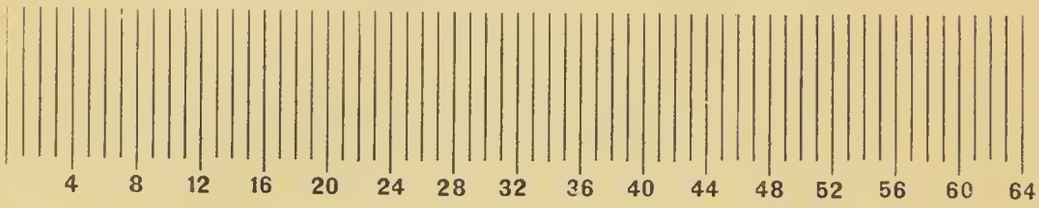
We guarantee all the measurements and weights to be exact.

S. H. & H. CHAPMAN,

2009 Arch Street, Philadelphia.

SCALE.

$\frac{1}{16}$THS OF AN INCH.



TROY WEIGHT.

24 grains equal 1 dwt. (pennyweight.)
20 pennyweights equal 1 oz. (ounce.)
12 ounces equal 1 lb. (pound.)
1 grain equals .064 gramme.

Catalogue, with nine artotype plates, price.....$1
Catalogue, priced after sale..... 1
Same, with the plates..... 2

ABBREVIATIONS.

States of the United States.

Ar. or Ara. or A.T., Arizona Territory.
Ark., ... Arkansas.
Cal., ... California.
Col., ... Colorado.
Dak., ... Dakota Territory.
Mass., ... Massachusetts.
Me., ... Maine.
Mich., ... Michigan.
Mo., ... Missouri.
Nev., ... Nevada.
N. J., ... New Jersey.
N. Y., ... New York.
Or., ... Oregon.
Pa., ... Pennsylvania.

Co., ... County.
Eng., ... England.
gr., ... grains.
Mex., ... Mexico.
M., ... Mine.
Pl., ... Plate.
Q. M., ... Quartz Mine.
R., ... River.
Spcs., ... Specimens.
Wt., ... Weight.

856 Almada, read Alameda.